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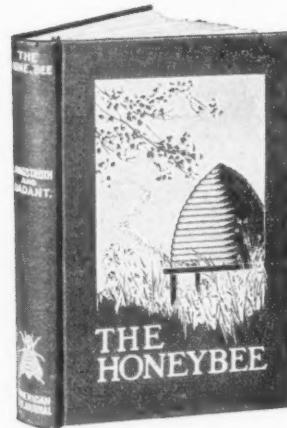
PACKAGE SHIPMENTS TO CANADA—L. T. Floyd.

SOME WHYS OF WINTERING—G. H. Cale.

SELLING HONEY CANDY—John T. Bartlett.

BOTTLING HONEY—E. G. LeStourgeon.

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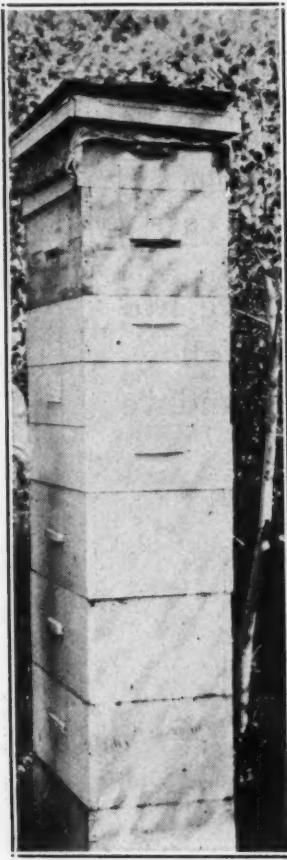
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IN THIS ISSUE



	Page
Some Whys of the Wintering Problem—G. H. Cale	543
Honey Vinegar—C. P. Dadant	545
Editorials	546-547
Bottling Extracted Honey for the Trade—E. G. Le-Stourgeon	548
With Texas Beekeepers—Frank C. Pellett	550
Is Sweet Clover Sometimes a Menace?—Clayton L. Farrar	552
Behavior of Water-carriers—Wallace Park	553
Honey as a Natural Food—Frank V. Faulhaber	554
A Demonstration Plan for Honey Candy—John T. Bartlett	555
Package Shipments to Manitoba—L. T. Floyd	556
Ill-advised Publicity—Robert S. Merrill	557
Products from Honey and Beeswax—C. P. Dadant	558
Length of Life of Honey Bee—G. H. Merrill	559
Honeydew Produced by an Insect, Gall—George D. Shafer	561
Huber Letters	562
Notes from German Bee Magazines—Dr. H. v. Buttel-Reepen	562
Beekeeping in Latvia—H. Smeils	564
Editor's Answers	565-566
Crop and Market	575
Burr Combs	582



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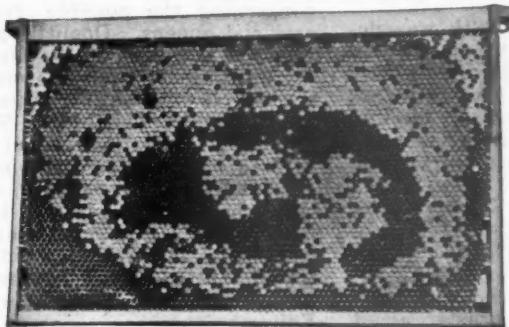
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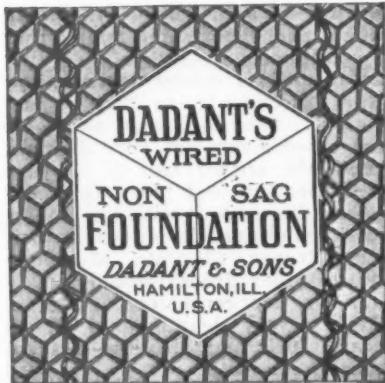
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Valdosta, Georgia.**



German Beekeepers Meet.

The sixty-first meeting of German and Austrian beekeepers in Bregenz was held from the 28th to the 31st of July, 1923. More than 300 apiarists from all parts of Germany, Austria, Switzerland and other German-speaking lands met in the nice little capital of the "Vorarlberg" by the Lake of Constance.

The evening of the 28th was devoted to greetings, with nice productions of a chorus and dances of little girls clothed like bees. Many speeches dealt with the deplorable circumstances of the German people and accentuated the resolution of holding truly together.

The following day, Sunday, after dinner, began the addresses. Most of them would have little interest for the readers of the A. B. J., with the exception of two or three. I mention the paper of Dr. Armbruster about heredity in bees. As an object of comparison, Armbruster took the third dorsal segment of the abdomen and described at least nine types of this segment, different in the pigmentation of the chitin. These investigations are exceedingly minute and intricate and require patience and exactitude. There must be many such investigations to be able to come to certain conclusions.

A very interesting theme was that of P. Alois Seibert, a very able apiarist and investigator of Bavaria. He made continued crossings from the offsprings of a queenbee by mating brothers and sisters, and found that by continued incestuous breeding there resulted a strong degeneration of the descendants, so that at last the queens became unable to breed. These experiments are very difficult, because the author had to be sure that the mating took place as he desired it. He made it with the Kohler process, confining the queen as well as the drones till late afternoon when no other drones would fly.

Our Dr. Morgenthaler, of Berne, spoke in a very clear manner of bee diseases, including also the acarian disease.

Somewhat strange were the assertions of Mr. Wankler, Baden, who claims that he sold to Doolittle his methods of queen-breeding many years ago. At the previous meeting in Magdeburg this man had been strongly celebrated and I have the impression that those flatteries had certain consequences on his character. He spoke in a very self-sure manner, but his assertions seemed to me feebly established. His theme was, "Away With Artificial Queen Cells."

Dr. Arnhart of Vienna, told us interesting things about the bee-louse. He found that the larvae of this parasite live under the covers of the cells, where they build long galleries, easily to be seen by cutting away the covers. By washing the underside of those covers those galleries appear very distinctly.

Monday at 11 o'clock we went on board a large steamer which brought us almost to the other end of the lake. We visited the wonderful isle

of Mainau, with its superb conifers. Most of us left Bregenz the following day, taking home agreeable impressions and a kind memory of those nice days.

Dr. Brunnich, Reuchenette.

(Doolittle's method was the result of continuous and successive suggestions made in Gleanings and the American Bee Journal, often in fun, concerning the possible rearing of artificial queens. Doolittle put those together and kept on his experimenting until he perfected the method described in "Scientific Queen-Rearing" originally in 1888. The fact that the Doolittle artificial cell-cup method has helped rear some of the best queens ever produced, and that the American-bred Italian bees now have international reputation, is evidence that Mr. Wankler did not use the Doolittle method, whether he made suggestions to him or not.—Editor.)

A NEW HONEY PLANT

It is evident that there are a great many plants of importance to the beekeeper which are not generally known. I have searched the files of the bee magazines and also old bee books for years in an effort to become acquainted with all the plants which are important sources of honey, yet frequently learn from some beekeeper about a plant not mentioned in the literature.

A few months ago a specimen came from Louisiana with a note to the effect that the bees were working upon it freely. No information was given as to the extent of its value or whether it was the source of surplus. The plant was identified as Marsh fleabane (*Pluchea petiolarata*). Now comes a letter from L. A. Schott, of Benton, Mo., with a similar plant which he states is known as "Skunk-weed" in his neighborhood, because of its disagreeable odor. Mr. Schott writes that it is an important source of fall honey, and is very nearly a sure crop. According to his letter Mr. O. M. Headlee, of Morehouse, Mo., secured an average of 160 pounds per colony in about two weeks, from this source in 1922. The honey, Mr. Schott says, is bright amber and has a disagreeable odor and taste similar to that emanating from the plant. The honey is of good body, but granulates very quickly after it is extracted.

Since there are several species of marsh fleabane widely distributed in marshy regions, it is probable that much honey is gathered from this source. The species above described is found from Maryland to Illinois and south to Florida and Louisiana.—F. C. P.

Foulbrood in Mississippi

From the report of the State Plant Board we learn that nearly 5,000 colonies of bees were inspected in Mississippi last spring; 64 cases of American foulbrood and 47 cases of European foulbrood. This does not indicate a very large infection in that state, since inspection work is likely to be carried on in localities where disease is most suspected.

American Foulbrood Conquered

**6,000 Combs Rotten with Disease Saved by one
Beekeeper this Season**

American Foulbrood has at last been conquered, and in a way to save all the combs. American bee-keepers can now be positively as- sured that this terrible scourge and tremendous financial loss are not longer necessary.

The details and proof of this as- sertion are told in the November issue of *Gleanings in Bee Culture*, edited by Geo. S. Demuth.

*A free sample of the number will be gladly sent you if
you will address*

GLEANINGS IN BEE CULTURE
MEDINA, OHIO

Finger Lakes Meeting

The second annual meeting of the Finger Lakes Honey Producers' Association will be held at the State Experiment Station, Geneva, N. Y., Thursday, November 22, 1923.

Among the prominent speakers who have promised to be there are Mr. Geo. H. Rea, of the A. I. Root Co., and Mr. R. B. Willson, of the Extension Department at Cornell University.

One of the features of the meeting will be a prize offered for the best home-made winter packing case on exhibition.

How I Started With Bees

I was in Shawano County, Wisconsin in 1877, and I saw a paper in the mud in the road. I picked up the paper and rubbed off the mud. So I got the address of the Bee Journal. I didn't know anything about bees at that time, but I had one good colony of bees. In a few years I had 140 good colonies. The bees built me a

very nice house and barn 40x70, bought a binder, mower, and paid my taxes many times. I am 71 years old now.

Henry Stark, Michigan.

Illinois Meeting

The annual meeting of the Illinois State Beekeepers' Association will be held in Springfield on the sixth and seventh of December. There is an unusually good program this year and a large attendance is expected.

Iowa Meeting

The State Beekeepers' Association of Iowa will hold its annual meeting at Des Moines on the fifth and sixth of December, and Professor Paddock has arranged a fine program for this time. Most of the speakers from the Illinois meeting will go to Des Moines for the Iowa gathering.

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BEE SUPPLIES
THAT ARE MADE TO SATISFY

Special Prices on No. 2 Sections

4 $\frac{1}{4}$ x 4 $\frac{1}{4}$ x 1 $\frac{1}{2}$, plain	\$7.00 per 1000
4 $\frac{1}{4}$ x 4 $\frac{1}{4}$ x 1 $\frac{1}{2}$, two beeway	9.50 per 1000

We also have a supply of 10-frame shallow extracting and section supers 15% in. wide, which we are closing out at greatly reduced prices.

Let us quote you prices before placing your order.

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 Yancey Hustlers. Three-Band Strain, Only

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Safe arrival and satisfaction guaranteed on every package and queen shipped. We are now booking orders for spring delivery, and will be glad to send you prices and full particulars. No more orders booked than we can fill promptly on dates specified.

Caney Valley Apiaries, Bay City Texas
 YANCEY BROS., OWNERS

"MY HONEY-MAN"

By Luella B. Lyons.

Nearly every child in Randolph had some sort of a route to make after school of evenings but little Jimmie Case. He was thoroughly disgusted with himself and the world in general. When he reached home mother was baking biscuits for the evening meal and she expressed the desire for a cake of honey to go with them. He flew to the corner grocer, but the grocer's supply just happened to be exhausted.

Jimmie went home sorrowfully. That incident stuck in his mind for several days and finally it came to him that he might make a good living selling honey from door to door if he could get in touch with the "honey-man," as he termed him. Jimmie's father was kind and he called up the "Bee-man" and asked if he would stop at their house the first time he came to town.

That following Saturday he came and Jimmie was home. They talked the thing over and he agreed to bring in the first supply the following day, promising a small commission on each amount sold. Half was in the extracted form and the other half in the comb.

The first evening he worked at his new business after school Jimmie netted about \$2.00. As the evenings flew by, he gained on this and soon established a regular patronage. On Saturdays he was busy the day long. Some of the neighbors moved away and they asked that their amount be shipped to them in a large box and they would sell what they couldn't use. Next, one of Jimmie's customers went into business and called up the Case residence and asked for Jimmie.

How proud he was to take such a large order from that storekeeper! Then there was a new tea room being built on the hard road, leading out of his town. He went to the home of the mistress and made a bargain with her to have a sandwich which contained honey and was called the "Heavenly Honey Sandwich." She promised to do this and soon he was taking her large orders of honey. This manner of advertising brought more customers, for the tea room had a small bake sale each day and honey was always beside the bake goods on that sale.

Jimmie finally dropped the Jimmy part of his name and was soon driving around in a wagon similar to a milk wagon, with the name of "James Case" printed in large letters on the outside. He even drove to other towns when business was not rushing in Randolph.

After he had finished High School James Case bought out the interests of that "Honey-man," and now he is for the business heart and soul.

JAY SMITH

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ITALIAN QUEENS

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100, Honey Girl Breeding Queens Free

ST. ROMAIN'S HONEY GIRL, CHAMPION BREEDING QUEEN, WILL HEAD OUR BREEDING STOCK

Beekeepers have not forgotten the wonderful production of several colonies headed by Honey Girl queen for season of 1922, neither has the brood production of several "twenty-comb" Honey Girl queens been forgotten.

We are pleased to advise that for season of 1923 the former records were reported broken.

A colony headed by a Honey Girl queen is reported to have produced 650 pounds honey, season 1923.

One Honey Girl queen was reported to have maintained 24 combs with brood.

Do you want more pleasure and more profit from your bees? We believe that Honey Girl queens, produced by Mr. J. L. St. Romain, who produced this wonderful strain of bees, will give you both, because prolific Honey Girl queens build powerful colonies of gentle, beautifully marked hustlers.

Rev. Francis Jager, highest authority in the northwest, writes: "They arrived in perfect shape. The queens immediately filled three frames with eggs, and the larvae of your bees are fed superabundantly and more freely than any other in our yard. . . . The bees at the same time are beautifully colored and extremely gentle."

The statement is quoted from a letter to Mr. J. L. St. Romain, who produced the queens.

A card will bring the story of this wonderful strain of Italian bees and particulars regarding our offer of 100 breeding queens.

Cottonport Honey Girl Apiaries
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10-lb. friction top pails, per reshipping case of 6	.90
5-lb. friction top pails, per crate of 100	7.00
5-lb friction top pails, per crate of 200	13.50
10-lb. friction top pails, per crate of 100	10.00
60-lb square honey cans, per case of 2 cans	1.25
60-lb. square honey cans, per case of 1 can	.80
60-lb. square honey cans, in bulk, each	.40
16 oz. round glass jars, per reshipping case of 24	1.35
6 1/2-oz. tin top tumblers, per reshipping case of 48	1.60

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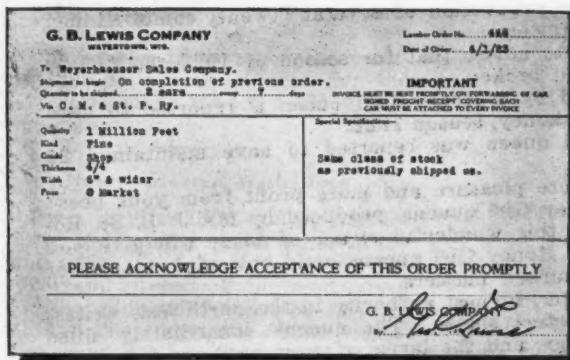
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When a concern has taught everyone in its organization to look at all business questions first from the customer's point of view —

When a concern has established the policy of courtesy in answering all complaints, whatever they may be —

When a concern has for 50 years been identified with most improvements in the lines of merchandise it makes —

When a concern is the recognized outlet for the highest quality equipment made by others in the same industry —

When a concern is represented the world wide by the most practical and reliable stores and dealers —

When a concern is looked to by practical men in the industry as the first and foremost source of supplies —

And when in addition to all these things, the concern leads in volume of quality business in its industry —

Then, we would say, that firm is entitled to recognition as the leader in its industry.

It is upon these facts that the G. B. Lewis Company invites the patronage of the beekeeping industry and solicits representation with other highly qualified concerns catering to beekeepers.

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AMERICAN BEE JOURNAL

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SOME WHYS OF THE WINTERING PROBLEM

Points to be Emphasized in Good Wintering.

By G. H. Cale

HERE are several easy roads to a lively dispute at any beekeeping convention, but I believe one of the easiest of all is to open a discussion of the wintering problem. Although in the last few years, a few fundamental principles of good wintering have been established, the application of them has resulted in a great variety of methods and materials which are confusing and whose application is clouded by vagaries of all sorts.

Articles have appeared in the journals, each fall, by authorities on wintering, which detail the essential features of the subject in an exact way. These fundamentals should now be so thoroughly soaked into the mental equipment of a successful beekeeper that any further extended reference to them would be rehash and would serve no purpose but to disturb his good nature.

Factors in Wintering.

The bulletins published by the Department of Agriculture, available without cost to any beekeeper applying for them, are most excellent texts on the wintering of bees. I have read them several times and, at each reading, find there is some point which I have failed to appreciate before. We need more such publications from Uncle Sam's laboratories.

The work done by Demuth and Phillips on the wintering problem threw some interesting light on the way bees react to winter conditions. Probably the determination of the temperature range for successful wintering was the most important phase of it. Their work determined the following important facts: (1) That bees winter in a shifting cluster which contracts or expands in direct relation to the temperature surrounding the bees, and that the continuance of warmth within this cluster is the result of activity on the part of the bees themselves. (2) That, at a temperature of approximately 57

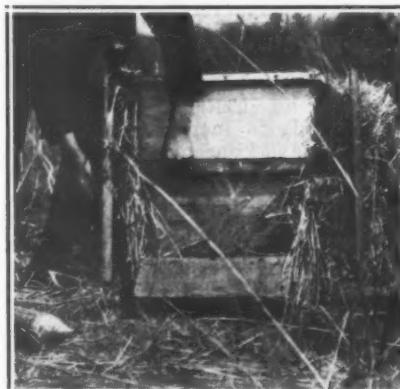
degrees Fahrenheit, bees are apparently the quietest and the cluster produces little heat. This temperature, therefore, is an optimum one for wintering bees. At colder temperatures, the bees condense their cluster and produce heat, and, at warmer temperatures, the cluster tends to break and the bees finally fly out of the hive. (3) Their investigations, incidentally, determined the fact that bees, wintering on a perfect carbohydrate, react differently to temperature than those which winter on a carbohydrate containing quantities of indigestible matter. A high grade honey is therefore better for wintering purposes than a honey containing honeydew or other indigestible ma-

loss. This, indeed, is an exact interpretation of the facts, but attempts to bring about the necessary conditions have resulted in a great variety of systems and methods.

It is a peculiar human trait to misunderstand and misapply some of the simplest facts of scientific determinations. As a case in point, during a trip through Wisconsin, some years ago, I learned of a beekeeper who had been told by one of the Government extension workers of the discoveries that had been made in wintering bees. This man was particularly impressed by the fact that 57 degrees had been found an optimum temperature for wintering. Since most of the facts were related to him in conversation, he mentally arranged them in the order of importance which seemed most correct to him, and determined upon the temperature relation as being the one most important consideration.

He had much faith in what the agent had told him and in the experimenters who had so faithfully studied the subject. Therefore, the following winter, he placed his bees in a cellar and very carefully kept the temperature of the cellar as near the optimum 57 as he could. The next spring his bees were practically all dead. Needless to say, he was not only at great loss, but in an unreasonable mood towards those who had determined such beekeeping facts. He blamed everybody and everything but himself. He was perfectly honest in the whole matter. Others, perhaps, have been through a similar experience.

Since it must be admitted that these scientific determinations are correct in principle and have been proven to be so by numerous tests, why is it that an application of them often apparently fails? There is no single answer to this question although the answer is most always a simple one. Some essential in the application of the facts to practice is omitted and the omission so alters



Straw packing as used in Dadant apiaries.

terial. Bees wintering on poor stores tend to keep a higher cluster temperature and a greater cluster activity than those which winter on good stores. This often results disastrously unless other conditions are the very best.

Applying the Facts.

From these facts, wintering would seem to be an easy problem. It is implied that it is only necessary to keep bees at a temperature of 57 degrees, constantly, on a pure carbohydrate, and they will winter without

the behavior of the bees that wintering results are disastrous.

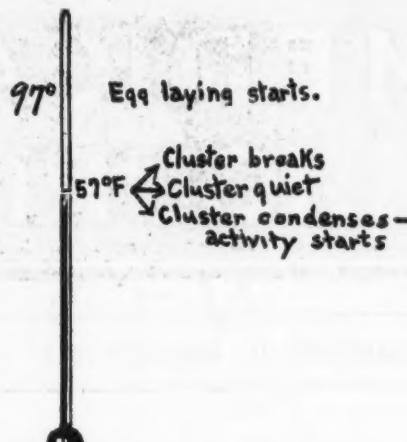
In trying to apply the temperature facts to the practice of cellar wintering, it is a mistake to keep the cellar temperature at 57 degrees. It is thought that this is the correct application of the fact discovered by science. A close analysis shows it is an error.

Science declares that bees winter best apparently at an optimum temperature of 57 degrees. What does this mean? It means that the air surrounding the cluster of bees should be somewhere near 57 degrees, provided the stores on which the bees must live are of the best and the bees themselves are in good condition. If these latter factors are not present, 57 degrees will not be an optimum temperature for that particular colony. In keeping the temperature of the cellar at 57 degrees, one does not necessarily keep the temperature of the air surrounding the bees at 57 degrees. With the cellar temperature at that point thermometer placed near the cluster of bees would probably register considerably higher. In applying the scientific facts to the practice of cellar wintering it is well to follow the simple rule of Langstroth: "Keep the cellar temperature at that point where the bees are quietest." It will be found that the temperature of the clusters, in a properly managed cellar, is somewhere near 57 degrees, although the temperature of the cellar itself may be considerably lower than this.

Outdoor Wintering.

In any discussion of outdoor wintering much stress is laid on the importance of packing bees to protect them from outside temperatures. In fact, so much stress is laid on this point that there is a tendency to lose sight of factors which are of equal and often of greater importance. In the Dadant apiaries we have not yet been able to prove to our satisfaction that heavy packing or insulation in large packing cases is a profitable method of wintering for us. We still protect our colonies in winter with a net of leaves or straw surrounding them, with leaves or straw in the covers placed over the clusters. The south or front sides of the colonies are left unpacked. While we have not yet proved the feasibility of heavy packing for ourselves, we have been in places where it is used with great success, even as far north as northern New York and southern Ontario. In our own climate we have flight days two or three weeks apart, at the worst, and, in the few instances where heavy packing has been used, more loss has been suffered by those colonies than where the leaf or straw packing was used. Probably this was due to some condition which we have not carefully studied.

In outside wintering, it is often recommended that sealed covers be used over the hives. While this recommendation has a good basis in fact, it is nevertheless a dangerous



The arrows indicate behavior of bees as temperature goes above or below 57 degrees Fahr.

one. If the winter stores are of the best quality, the clusters strong and sufficiently protected by packing and windbreaks, a sealed cover will prove better than upward absorption. However, I have yet to find a method which will sufficiently determine for me the exact quality of the stores in all of our colonies, or which will predict the conditions under which the bees will winter, to feel that sealed covers are safe. Consequently, we always provide for upward absorption.

Stores.

However important the matter of packing and cover may be, it is my opinion that they are greatly over-emphasized. The most important factors of successful wintering are good stores and good colonies. The word "good" is an ambiguous one, and yet I do not know of any other word to use. By good stores is meant stores which are thoroughly digestible. It has been found that when quantities of indigestible materials are retained by the bees in winter an irritation is produced which tends to increase the cluster activities, and consequently the cluster temperature, in proportion to the amount of waste materials accumulated. In Canada, where bees are wintered successfully out-of-doors in large packing cases, it has been found necessary to extract the natural stores and to feed back sugar syrup, which is free from waste, in order to insure successful wintering.

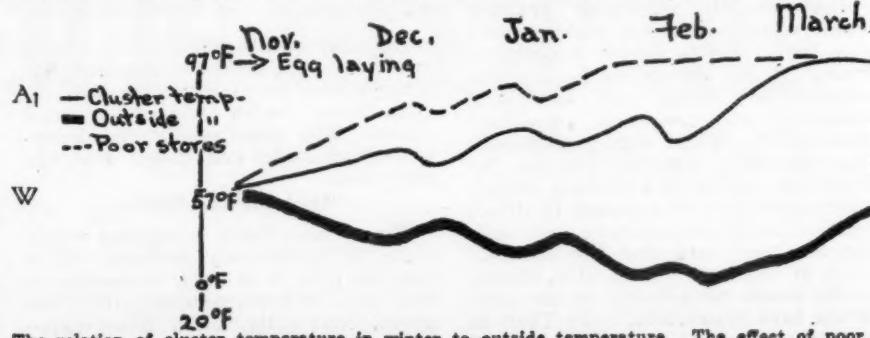
It seems to be a natural provision also that the honeys of the northern

states are of a better quality than those in the South, where bees have frequent chance for winter flights. In our region, which is just on the fringe of the clover territory, we do not have as good a grade of stores as they do a hundred miles or so north of us, and, when we get an occasional severe winter, we notice a much heavier loss, regardless of the condition of the colonies or the protection given them. We have come to look upon the amount and quality of stores, therefore, as one of the most important factors in successful wintering. In fall, if we anticipate a poor grade of stores, we often feed some sugar syrup, so that the bees will have good stores for the severer part of the winter.

In our own experience, we have found, regardless of the protection given, that those yards which are best protected from winds show the best wintering. I believe that if I had to do either without wind protection or without packing, I would choose to do without the packing.

Young Bees.

The importance of strong clusters of young bees has been stressed time and again, yet we have just been through an experience which has thoroughly impressed this fact upon us. For several years we have been having a severe fight with foulbrood, which, thanks be, we have now reduced to a negligible minimum, and we have been in the habit of examining for disease three or four times a year. The last examination comes in the fall as we remove the fall crop. In the fall of 1921, after this examination, we had twenty cases of foulbrood scattered through our ten yards, and, preferring not to shake the bees so late in the season, we decided to isolate them in a hospital yard until spring. We gave this yard considerable care, packed it carefully for winter, and fed the colonies sugar stores, so they might have the best possible food for winter. However, of these twenty colonies, we had two left at the beginning of apple bloom in 1923. The explanation of this is simple. These colonies, badly diseased with foulbrood, although they were strong in numbers, were made up largely of old bees, due to the fact that the brood emergence had been so long at a low point. These old bees could not survive the winter. They died with the best of protection and with plenty of stores in the hives.



The relation of cluster temperature in winter to outside temperature. The effect of poor stores in increasing the cluster temperature is indicated by the dotted line

Some of them had been requeened during the previous summer, but were not able to build up clusters of young bees for winter.

We have, therefore, come to regard a large number of young bees

as necessary for successful wintering. I believe that a proper emphasis of wintering essentials, in most regions, would place stores and bees first in importance, and protection and packing last.

HONEY VINEGAR

By C. P. Dadant

EVERY few months, the American Bee Journal receives a number of requests for the method of making honey vinegar. We publish it, but before another year is over the requests come again. This shows that few people keep their journals. It is a mistake, for no one can appreciate the amount of information supplied unless he has the magazines bound for reference.

The making of honey vinegar for sale is not a profitable venture, unless one has opportunities of selling it at retail. Apple cider, pear cider, and often soured grape juice, make a much cheaper vinegar than we can make out of honey. In fact, those liquids, often left over from the crop, will turn to vinegar before spring and must be either sold as vinegar or thrown away. For that reason, we do not advise the making of honey vinegar in quantities. Make it for yourself and your neighbors; if properly made it will prove much better than any other kind.

The washing of cappings, of honey extractors, tanks, pails, etc., would be wasted if we could not make the liquid into vinegar. Use small quantities of boiling water, so as not to make the liquid too weak. Then strain it and boil it so as to take out impurities. In making vinegar, as in everything else, cleanliness counts for much.

If you suspect the honey water, obtained as above stated, of being too strong, drop a fresh egg in it. The egg will disappear, but will soon come back to the top. It should not project above the water more than the size of a ten-cent piece. If you make the vinegar from discarded honey, because it is dark, or strong, or already fermented, use about a pound-and-a-half to the gallon. The different writers on the subject vary in their recommendations between one and two pounds; but one pound of honey to the gallon will make a very weak vinegar, and two pounds will make it rather strong and slow to sour, although the latter is very good when finished.

It is well to boil the preparation, because it kills a variety of germs which might hinder the proper fermentation. Once we made vinegar, a hundred gallons or so, without boiling. It turnedropy, did not ferment properly and had to be thrown away.

Bear in mind that the first fermentation must be alcoholic. No vinegar can ever be made without an alcoholic fermentation; but the acetic may follow closely.

To start the first fermentation requires some yeast or fruit juice mixed with the liquid. The preparation must also be kept in a warm spot, not below 70 degrees F. It is still better if the temperature is up to 80 or 90. A keg behind the kitchen stove, or near a heat radiator, is in the proper place. Leave out the bung, for fermentation would force it out or explode the receptacle. Use a sandbag over the bung, to keep out insects. When the alcoholic fermentation is pretty well along, or still better when it is about ended and the liquid ceases bubbling, add either vinegar or vinegar mother and give plenty of air. The large manufacturers of vinegar bring about the acetic fermentation very swiftly, by transferring the vinegar from one vessel to another, through beech shavings, allowing it to run slowly enough to transfer about one barrel into another in a day. The explanation of this lies in the fact that the germs of acetic fermentation pervade the air. Where there is vinegar, sweet liquids are in constant danger of deteriorating, owing to that fact.

Honey which has fermented, because of too early extracting, is excellent to make vinegar. But in every case, we must be very careful of what we use, because the liquid may spoil, may mould, and become musty. Thus it is absolutely necessary to use very clean kegs or barrels, without any ill flavor.

When we made small quantities of vinegar, we used to draw a gallon from the keg, as needed, and replace it with a gallon of honey water. In this way our vinegar always kept up its amount. But there was a drawback. There was always more or less sweetness in it and there was alcoholic and acetic fermentation going on at the same time. It is really better to make separate stocks of vinegar, keeping a supply of the fully sour all the time. If it is made right, vinegar started in October should be very sour by spring. The more you will pour it back and forth in the vessels the faster it will sour, because of the contact with the air.

You may improve your vinegar in flavor by putting into it a small amount of tarragon leaves (*Artemisia dracunculus*). The tarragon is a plant from the Spanish Pyrenees, which has been brought to the vegetable gardens all over the world. It is a perennial, very hardy, with a pleasant flavor, especially desirable in pickles and sour preparations. "Tarragon vinegar" is much prized by cooks.

When your vinegar is well made, it is a good plan to rack it off and bottle it. There is always lees, or dregs, at the bottom of a vessel which contains any fermented liquid. By drawing or racking the liquid without disturbing the vessel, we secure a clearer liquid, provided the fermentation is thoroughly ended.

Vinegar Eels.

All good vinegar produces a small hair-like nematoid, which is called "vinegar eel," or "anguillula," because of its resemblance to an eel. Some housekeepers imagine that their vinegar is spoiled when they see these little wigglers, for in a good light, in a small vial, they may be seen with the naked eye. This is only an indication that the vinegar is properly made, for the chemical vinegar, produced by adulterators with sulphuric and other acids, cannot contain any life. When you find these, if you wish to get rid of them, just heat your vinegar to about 180 degrees F. In a little while they will settle to the bottom of the vessel and the clear liquid may be drawn off.

Some housekeepers may be disgusted with vinegar when they read this, and especially when they actually find the vinegar eel in vinegar which they have been using. It is lucky for these good souls that they do not possess magnifying eyesight, for they would probably starve themselves to death trying to avoid the consumption of things containing microscopic life which is absolutely harmless to human beings.

RELATION OF QUEEN'S ACTIVITY TO COMB SAGGING

It has been found, in the large hive, that even prolific queens seldom lay in shallow extracting supers and, when ten-frame hives are used, queens are also often confined definitely to one of the two bodies. In the latter case, the difficulty has been explained by the failure of the queen to pass readily over the area of sagged cells at the tops of the brood frames. That this same imperfection in the brood combs of the large hive might keep the queens from entering the shallow supers has not been apparent.

For the past four or five seasons, however, we have been using large amounts of wired foundation which practically eliminates the sagging and we have found, even with the large Dadant hive, that many of the queens do go into the first super to lay, but seem to pass without hesitation between that super and the hive body. It results in a still greater enlargement of the brood nest, which is not at all a detriment.

In the fall, when brood rearing is less active and fall honey begins to bulk up, the queens desert the supers, which soon become full of honey and a rim of honey of two or three inches or more is placed in the brood combs also. The advantage of this behavior to users of the two-story ten-frame hives is obvious.—G. H. Cale.

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THE EDITOR'S VIEWPOINTS

CONTROL OF PRICES

European beekeepers find, as we do, that it is necessary to have a commission or an association to control the sale of honey and give a standard of quality and standard prices. In the Bulletin of the Societe Romande of French Switzerland for September, a notice is given asking the beekeepers to address the members in charge of the control in each district. The latter will examine the honey, pass upon its grade and establish prices, after having submitted the samples to the central control.

In this way the beekeeper knows positively what he should expect for his honey and there is less of sacrifice of prices. We will come to that through the United States sooner or later.

Fred C. Baines, of New Zealand, writing in the "Bee World," makes the statement that their honey in some localities is "unextractable." He writes:

"You can imagine what the honey is like when I tell you that I have placed some comb in the solar wax extractor and the wax will melt away, leaving the hexagon mould of honey, that the heat of the sun would not cause it to lose its form, although it was hot enough to melt the wax."

WHERE IS LATVIA?

In the present number, the reader will find an article by M. Smeils, upon beekeeping in Latvia. As this is one of the new republics organized from disintegrating Russia, many people may not know its exact location. Latvia is west of northern Russia, between Lithuania on the south and Estonia on the north. Its capital is Riga, situated on the Gulf of Riga, which opens upon the Baltic. Much harm was done by the world war, and if we listened to our sensational dailies, we would not believe that any good came of it. But a number of republics have been taken from old autocratic countries and they appear likely to live through it. We are too apt to forget that our country, after the war of Independence, had no other enemies than its own politicians, since we had a clean field west of the thirteen original states; except the few Indians scattered over the country in small bands. Not so with Europe, where they have to fight the ideas of monarchy, the old established lords who owned the soil by right of conquest, and many prejudices. Everything we see tends to indicate that, with a few years of hard work, those countries may yet do their share in civilization. What we see in the line of beekeeping indicates that they are willing to learn and to work. Let us have patience with them.

PROTECTION

On page 286 of our June number, we mentioned a complaint by a Belgian bee magazine that the French beekeepers asked for an increase of duties upon Belgian gingerbread. We are now informed that the reason why the French beekeepers wanted an advance in the duty

was because the Belgian duty on this article of consumption is 54 francs per 100 kilos (220 lbs.), while the French duty on the same article is only 27 francs.

So it goes. We put duties upon all sorts of articles and the other fellow retaliates by putting duties upon what we have to sell. But very often only a few people know what all this fighting amounts to.

A PARASITE OF THE WAXMOTH

We are in receipt of advance sheets of an article to be published in "L'Apiculture Francaise," concerning a parasite of the waxmoth; a small hymenopter whose female lays her eggs within the cocoon of the waxmoth. The larvae that hatch from these eggs live upon the body of the waxmoth chrysalis.

This insect, one of the smallest of the hymenopters, belongs to the family "Chalcidæ" and is denominated "Dybrachys boucheanus." Its size is 2 to 2½ millimeters (less than 1-10 inch); it is of a bluish black color. The ovipositor is provided with a borer, occupying the same position as the bee's sting. With this, the females are able to insert their eggs within the cocoon of the moth. They lay from 10 to 20 eggs, rarely up to 30.

The writer of this description advises the propagation of this insect, by enclosing waxmoth worms, larvae and cocoons within a box covered with wire mesh, which the Dibrachys may enter, while the moth is hopelessly retained. The parasite may enter, thrive and reproduce, leaving the enclosure when its work is done.

Mr. Mamelle states that he has never seen this parasite of the moth described in any work, although he has been studying it for 17 years.

Our thanks are due to Mr. Prieur, editor of the above named magazine, for the information secured on this interesting insect.

ILL-ADVISED PUBLICITY

Every beekeeper should read the article by Robert S. Merrill in this number. There is no question but that so much publicity regarding bee diseases is doing much to injure the honey market. Many persons get the impression that there is danger of contracting disease from eating honey. It would be far better for the beekeeping industry if the discussion of diseases could be kept entirely out of the newspapers. It is a question which is not of interest to the general public and which is constantly misunderstood. Misguided inspectors often give out information concerning bee diseases to newspaper reporters when they should take advantage of the opportunity to tell them something interesting to the general public. Stories of successful beekeepers, or of the life of the bees, or uses of honey have a good effect, whereas discussion of disease makes the consumer afraid to use honey.

PROPOLIS FOR INCENSE

"L'Abeille," of Quebec, in its September number, page 107, calls upon beekeepers for the shipment of any amount of propolis which they may have to spare, to be used as incense in the Catholic churches. This is a use of propolis which had not been called to our attention before, but it looks very appropriate.

COST OF THE MILLER MEMORIAL TABLET

The question is asked whether the cost of the Miller Memorial Tablet, located in the church which Dr. Miller attended, was taken out of the Library Subscription. No, it was not. When the matter came up in the committee, the chairman decided that we had no right to divert any funds from the Library to the tablet. So the question was asked of the members of the committee whether they were willing to stand the cost of this tablet. They were, and they immediately subscribed \$10 each for that purpose. One member even said that he was willing to make his subscription \$25 if necessary. But the \$50 was sufficient. In fact we spent only \$40.35, and the balance of

\$9.65 was added to the Library Fund. We should have said nothing about it, had not an inquisitive subscriber asked the question to which this is a reply.

The five members of the committee who gave their time and a little extra money for the purpose are: B. F. Kindig, E. R. Root, Dr. E. F. Phillips, E. G. LeStourgeon and the editor.

The tablet in question, made of bronze, is 12 1/4 x 18 inches. All who saw it pronounce it very artistic. It was manufactured by the Wood-Detroit Mfg. Company, of Detroit.

Remember that the Miller Memorial Library is still open to subscriptions. In fact this Library should be sustained and increased by beekeepers, for it is for their benefit that it exists, and it will prove of great value as a depository of beekeeping information, open to all.

LARGE VERSUS SMALL HIVES

The excellent magazine "La France Apicole" is giving extracts from old authorities in beekeeping, and quotes from Olivier De Serres (1539-1619) who is evidently the Butler of French beekeepers. He lived a little earlier than Butler, since the latter's book was published about 1630.

We glean and translate from these quotations the following concerning the advantages and disadvantages of large and small hives:

"From hives that are too large proceed honey and beeswax, but not swarms for the conservation of the race, except rarely, and only by benefit of season. For it is only by want of lodging that bees separate to seek a new home. On the contrary, the too small hives produce more beasts than other income."

Thus we see that the much discussed statement that large hives produce big crops and few swarms was already sustained three hundred years ago.

For bee hunting, this writer used a hollow reed, partly filled with honey. After a number of bees become accustomed to come to it, he imprisoned them, releasing one at a time, and following the direction which it took. When he lost sight of that bee, he released another, and kept going until the bee tree was finally found.

FOOD PRODUCTS WITH HONEY

We are in receipt of sample packages of "Porter's Trufoods," which are preparations of figs, dates, cocoanut and other fruits of similar kind, with honey, wrapped up like chewing gum and sold in confectionery stores. These things are real healthy foods and help in the consumption of honey, being far ahead of the chewing gums which have so much vogue and do so little good.

SHORT CROP OF HONEY

If the crop is short in this country, and in California especially, it appears to be short also in Europe. The August number of *L'Apiculteur* says: Prices are firm, with a tendency to rise; supply still short; conditions have not improved as yet."

In the Swiss "Bulletin," one man writes: "In our favored region, the apiary news are not satisfactory. . . . Bad weather this year. . . . They are killing their drones. . . . Nothing good."

Another man, in the same magazine, writes: "Usually when a man makes report of his apiary, it is when he has had a good crop, but such is not the case with me. . . ."

The "Bee World," however, reports "a good average crop."

In Canada (Quebec) they write us: "Season remarkably cool and dry. It seemed in July as if the source of honey flow was entirely dried up."—Jacques Verret.

LETTERS OF CHARLES DADANT

We have had the pleasant surprise of receiving from Switzerland a large package of letters of Charles Dadant, written from 1879 to 1900. They were addressed to the late Edouard Bertrand, who established the "Revue Internationale d'Apiculture," first called "Bulletin de la Suisse Romande." This magazine, which was published from 1879 to 1903, was probably the only bee magazine which suspended publication, not for want of subscribers, but for want of an editor. Mr. Bertrand, who was a man of wealth and who published this for a pastime, was also an exceedingly careful and particular man (he had been a banker and broker in Paris), and refused to consider putting his magazine in other hands, when he became too old to look after it himself. Mr. Dadant was an active contributor of this magazine and, although these two men never met, they became exceedingly intimate.

These letters of Charles Dadant were all preserved carefully and without exception by Bertrand. The collection of letters even contains announcement of news and happenings entirely foreign to beekeeping. It ends with the telegram, received from the Dadants, announcing the death of Charles Dadant, July 17, 1902.

There are in those letters some appreciations of beekeepers and of beekeeping theories which would make interesting reading, could they be all published. We expect to give a few quotations from them. The reader will find one in our next number, on "Queen Introduction." The dates will be given.

RELEASE THE ESCORT BEES BEFORE INTRODUCING QUEEN

On page 309, of the October "Western Honey Bee," R. E. Lusher writes that "excellent results are obtained by releasing the bees that accompany the queen, before the cage is put into the hive." That is our experience. The bees of a colony will accept a strange queen, if they are queenless, much more readily than they will accept strange workers. So if the queen is unaccompanied there is less danger for her. The strange bees are always a danger; they may be illtreated, and this puts the bees in fighting mood.

CANADIAN BULLETINS

A bulletin on wintering bees, published in 1922, by C. B. Gooderham, a revision of the same by the late F. W. L. Sladen, is again brought to our notice. The matter given is excellent. We notice that the cellar temperature advised is 42 degrees F., the same as was advised by Chas. Dadant when he practiced cellar wintering.

The greatest stumbling block, in wintering bees in four-colony winter cases out of doors, is in the possible loss of bees, by drifting, when the hives are moved. The bulletin advises "gradually bringing them together in the late summer so as to occupy nearly the same position and face the same way as they will in the case." We believe that this recommendation should be emphasized, especially with beginners who do not realize how much colonies may suffer from "drifting."

Another bulletin, Report of the Dominion Apiarist, is of interest throughout. A statement concerning the "Aluminum combs" indicates clearly that these combs are not as successful in the North as in the South. A statement concerning 26 samples of supposed diseased brood shows that 10 of those contained no disease. We have often seen beekeepers unnecessarily worried over accidents to the brood that they took to be disease. When brood dies from disease, it dies in an irregular manner; while whole combs of dead brood, that has died at the same time, evidently result from starvation or chill. One should worry very much more over a dozen cells of dead brood scattered over a comb than over an entire comb of smothered or chilled brood. In any case, there are now enough official experimenters and advisers for the beekeeper to consult, that he has no need of being left in the dark about such things.

BOTTLING EXTRACTED HONEY FOR THE TRADE

By E. G. LeStourgeon, Manager Texas Honey Producers' Association.

TOO little is actually known about the proper way of preparing honey for the market. When the editor of the American Bee Journal requested an article on this subject he said: "We are having inquiries from time to time from persons who desire to pack honey. They want to know something about the density of honey, how it should be liquefied, the temperature it should be kept at, how bottled so that it will stay liquid, etc."

It is apparent to all of us that the more accurate information we can obtain the better it will be for the honey business generally. Much honey is put on the market in an unattractive and unmerchantable condition and the sale of all honey suffers thereby. Our first impulse was to tell the readers our method and the manner in which we handle the honey in our packing plant. We realized, however, that our method was not perfect, since we find it impossible to prevent granulation or even to retard it in any great degree. To get all of the information possible, therefore, we sent a questionnaire of five basic questions to ten of the more prominent honey packers on the continent.

The questions and answers were, briefly, as follows:

1. What is the density, or specific gravity of honey suitable for bottling? Unknown; not over 20 per cent water; not less than 12 pounds to the gallon; 41 to 43 degrees Baume.

2. How should granulated honey be liquefied? Hot water; dry heat; dry oven; steam; slow heat.

3. What is the maximum temperature that can be used? 145 to 160 degrees; slow to 160 degrees for ten minutes; 170 degrees maximum; 100 to 120 degrees slowly applied; 120 to 140 for at least three hours; 130 till liquid, then 160 for short time.

4. At what temperature should honey be bottled? Answers varied from 120 degrees to as high as 180 degrees.

5. How can honey be bottled so that it will stay liquid and not soon become granulated again? Cannot prevent; retard for six months; sealing under vacuum practically prevents; airtight jars retard six months to a year.

The replies were simply startling. They showed that little is actually known definitely about the subject by anyone and each shipper and bottler has worked out empirically his method of handling the product. Certain experiments brought certain results, and without any purely scientific data each has developed his own process.

Every packer and bottler, who was

requested to do so, cheerfully and frankly sent very full information and gave as complete answers as it was possible to do. We are giving the information here in hope that thought will be stimulated and more accurate information brought out. We are withholding the names of the packers who were interviewed, for obvious reasons.

Compare one of the replies just a moment. Five out of the ten increase the degree of heat at the moment of bottling. Three of them reduce the temperature just before bottling. Two at the same heat by which they render the honey liquid. The same variation in differing proportions is shown in every question answered.

There are enough points on which we are all agreed to make certain general observations possible.

There is much yet to be learned about the handling of honey and our readers will find here some interesting observations on the bottling of their product. The Texas Association handles large quantities of honey for its members and the greater part of it is sold in Texas. We believe that it is possible to increase the consumption of honey in our home markets to a very large extent. The manner in which it is handled will have much to do with the extent of the demand.

On the subject of density we should never consider the bottling of honey that weighs less than twelve pounds per gallon at normal or room temperature. More correctly or scientifically expressed, the specific gravity of normal honey is 41 degrees Baume. Sometimes honeys are found which are somewhat denser and readings of 42 or even 43 degrees are sometimes encountered. It might be interesting to remark here, incidentally, that, contrary to popular belief, the thinner honeys are more likely to granulate than the more dense. For this reason a bottler prefers honey reading 42 degrees to the thinner or normal density of 41 degrees. It cannot be emphasized too much that all hydrometer readings or determination of density by avoirdupois must be taken at normal or room temperatures, preferably at 70 degrees Fahr. or less. Hot honey should never be tested for this purpose.

We now come to the second question, that of the manner of applying heat to the honey for the purpose of liquefaction. A low temperature,

slowly applied, is far better than rapidly heating the honey. Remember also that the cans or barrels containing granulated honey should be so placed that the honey will drain off as soon as liquefied. Honey melts just like ice. The temperature of a piece of ice floating in boiling water will still be 32 degrees Fahr. and will so remain until the last portion is melted. So with honey. You must permit the honey to quickly drain away from the granulated mass in order to prevent overheating and consequent damage to the honey. The most practical way to liquefy honey is in a hot room or oven having a steady temperature of not over 130 degrees. You will notice that on the point of what is the correct temperature there is a wide difference of opinion among the bottlers of this country. We feel sure, however, that low temperature, say 120 degrees to 130 degrees, slowly applied, is much better, and our experience bears out this belief. Whether the heat is furnished by steam, hot water or hot air pipes it is of little moment just so this fact is noted and observed: The heat must not come directly in contact with the honey. The hot water bath, used by nearly every beekeeper, would be as good as any plan if it were possible to drain off the honey as fast as it becomes liquid. Because of the advantage of doing this, a hot room or an oven with its temperature regulated by a thermostat is much better. After the honey is liquid it may be heated further and blended or mixed by drawing it off into a jacketed tank. The one shown in the illustration is used by a Colorado packer, and similar tanks are used by most large bottlers, including ourselves. After the honey is liquid it may be brought to a higher temperature in the blending tank, but our opinion is that many of the temperatures shown in the accompanying answers are too high. Our thermostat is set at 147 degrees as a maximum. When our honey reaches this temperature the heat is automatically shut off. Maybe one will suffer more from granulation because he does not use the higher temperatures, but he will be repaid by retaining the delicate bouquet flavor and aroma of his honey. Where high temperatures are used for any reason they should be maintained for a very brief period only. A moderately high temperature over long periods of time is more detrimental than a high temperature of very short duration.

At what temperature shall we put honey into the bottles? Frankly, we do not know, and we do not think it makes very much difference. Let two of the best and most successful

bottlers in the country give opposite opinions in the following words. One of the best loved and most thoughtful men in our industry says: "The temperature usually used is 160 degrees, rarely ever going up to 165 degrees, and we allow it to come down to about 135 degrees or 140 degrees when we draw it off to bottle it. In this way it will stay liquid, ordinarily."

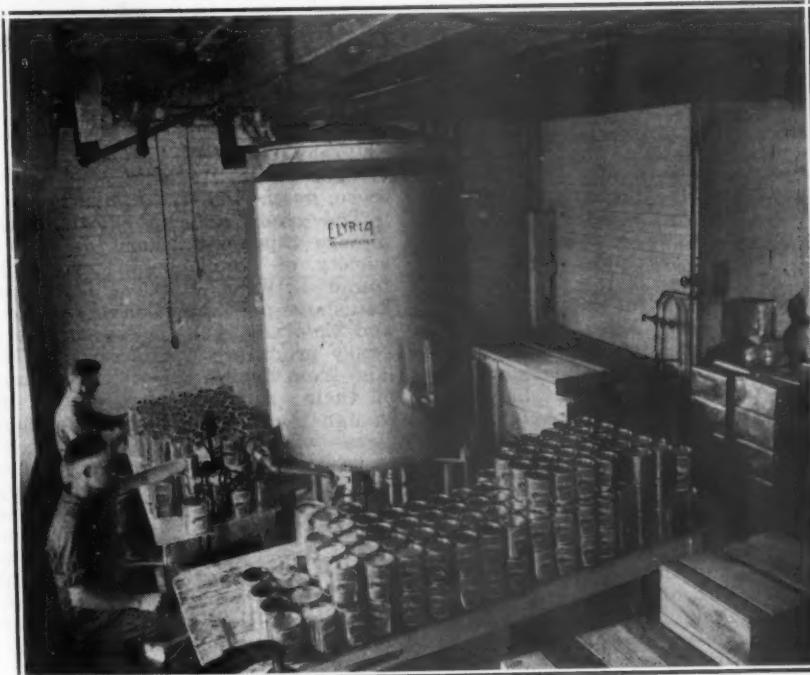
The other man, a bottler of note and good repute, who is known nationally as a successful packer, says: "For bottling, the temperature of the honey should be suddenly raised to from 170 degrees to 180 degrees and put in airtight jars. In this way the honey will remain in its liquid form for a long time."

Now, we think that both of these men are in error in giving credit for non-granulation to the fact that one reduces and the other increases the temperature at the moment of bottling. We are inclined to agree with another well known bottler, whose letter on this point reads: "If the honey is to be kept in a warm temperature for only a short time 180

degrees is right. If, however, honey is kept in a warm room for twenty-four hours, temperature above 120 degrees is amply high." All bottlers are agreed that the honey should be packed in airtight jars. The more nearly the honey is hermetically sealed the longer will it be before granulation takes place.

Shakespeare makes one of his characters exclaim, "There are stranger things in heaven and earth than are dreamed of in our philosophy!" and we may paraphrase this by saying that "there are factors in the matter of honey granulation that we have never considered." We have all noticed this peculiarity. You sometimes pack out a batch of honey. Some jars will granulate in three to six months. Some of it stays liquid nine to twelve months. A jar here or there will run two years without any sign of granulation. There is some cause here that has escaped us. If we could find the secret which made that one bottle remain ungranulated for two years we would have solved the problem.

San Antonio, Texas.



150-gallon honey melting tank in an up-to-date packing plant.

HONEY CRAMPS

By Geo. W. Pillman. Centaur
Station, Mo.

During the several years I have been reading the American Bee Journal, I do not recall reading anything in regard to the rather common complaint of getting cramps from eating honey. Certainly the producer who sells his honey direct to the consumer must have met up with people thus affected many times, as "Honey cramps me" is often the response and reason for not buying it. I have found, in a house-to-house canvass in selling honey, that about one out of

every eight persons is affected in this peculiar manner. The response is, "We just love honey; I would like to buy some, but it gives me the cramps every time I eat it." I have also been advised by acquaintances that honey cramp them nearly to death every time they ate it, and have knowledge of entire families being affected in this peculiar way. The late Dr. Kellogg, of Battle Creek, Mich., termed this condition wherein individuals could not eat certain wholesome foods without distress, "idiosyncrasy," a rather unusual word. Universal Dictionary defines it peculiarity of constitution, or temperament; peculiar to the individual. By

way of satisfying my own curiosity, I made some investigation as to why some people could not eat honey without ill effect. I found several among those interviewed who had overcome this constitutional peculiarity against honey by taking it with certain other foods, and in certain ways. Believing the information secured might interest the readers of the American Bee Journal, I take pleasure in quoting their statements. A. stated he "could not eat honey in its raw state, but could eat it after it had been cooked and skimmed without painful after results." B. said that he "could not eat honey extracted out of the comb, but when he ate it, comb and all, it did not cramp him." C. also subject to honey cramps, advised that he "could eat it with milk and cream without ill effects." D. stated that he always loved honey, but could never eat it without developing a case of cramps. He secured immunity from cramps by starting in taking a few drops of honey with each meal, and gradually increasing the dose from day to day until eventually he could eat all the honey he desired. As to how any of this information will work out in a given case, the writer will not vouch. Having met so many people subject to stomach pains from eating honey, I think this subject somewhat important, for the reason that we producers of honey might sell many more tons of honey if we could develop a cramp immunity for the many that like honey and that would buy it, but cannot eat it without developing cramps. I have read somewhat on the psychology of digestion and a few other sciences pertaining to the human body. I deduce from that which I have read that an immunity from honey cramps can be secured by gradually increasing the amount of honey taken daily, as mentioned above. Results that might be attained by further experiments would make interesting reading.

(BOSTON, MASS.) INDEPENDENT CHRONICLE, JULY 17, 1815

"An Aquatic Swarm of Bees."

"While Capt. Enoch Hoyt, of the sloop Enterprise, was on his passage from New York to Albany, he was boarded by a large swarm of bees on the quarter deck; but the captain beat for quarters on some bars of iron, with a large hammer, when the attack was shifted to the end of the bowsprit. This proved to be an excellent swarm of bees and now is in the possession of Mr. Thomas Gould, merchant of Albany; and what is still more extraordinary, the sloop was all the while under way, at the rate of five miles an hour. When the sloop was at anchor (which was four times), they would ramble on shore, but as quick as the sloop was under way they would return and retire to the hive. A few stragglers were seen at each time of anchoring to be in pursuit of the vessel, and to alight at the hive.—Albany Argus, July 1."

(Sent by Dr. B. N. Gates.)



Typical landscape in South Texas. Mesquite trees and clumps of prickly pear cactus.

WITH TEXAS BEEKEEPERS

Impression of the Opportunities and Difficulties of Honey Production in the Lone Star State

By Frank C. Pellett.

TEXAS is not an easy state to describe. It is so big and has such a great variety of physical and climatic conditions within its borders that any description is likely to be of only local application. I did not find it difficult to understand the peculiarities of beekeeping in North Dakota, for there is but one really important source of surplus in the state, the seasons are similar in all parts, the honeyflows come at approximately the same time and the quality of the honey is similar from all sections. In Texas, on the other hand, one can find conditions similar to North Dakota as well as conditions similar to the swamps of Louisiana, the desert of Arizona and even localities where semi-tropical conditions prevail. There light honeyflows continue almost throughout the year with rainfall rather than temperature the important factor.

To describe such a state in detail would require many pages of room and far more information than I have been able to acquire in my few visits to Texas. My latest visit to Texas was at the invitation of Prof. S. W. Bilsing to attend the summer short course at College Station. This offered an especially good opportunity to meet a considerable number of the beekeepers who do business on a large scale. The question was asked as to the number of men present who were operating more than one thousand colonies of bees. The eight establishments represented in the photo include more than nine thousand colonies, and there were other beekeepers present in the thousand colony class who could not be

located at the time the photo was taken. There are nine men in the picture, but two of them—Yancey brothers—are partners. W. O. Victor, of Uvalde, is the largest individual operator in the group, with 1750 colonies. Next comes Alvin Clark, of Charlotte, with 1350; Arthur Sternenberg, of Lockhart, has 1140; Yancey Brothers, of Bay City, 1100; The Sunny South Apiaries, of San Antonio, represented by E. G. LeStourgeon, 1085; T. W. Burleson, of Waxahatchie, 1025; L. R. Nolan, of Corsicana, 1023, and T. P. Robinson, of Bartlett, 1020. Nowhere outside of California would it be possible to get together so many beekeepers operating on such a large scale. It is probable that but few of the northern states even have as many as eight beekeepers in the thousand colony class. A. R. Graham, of Gauze, one of the largest beekeepers in Texas, is not in the picture, although he was in attendance at the short course.

In my opinion, the reason that Texas has more big beekeepers is because beekeeping is taken seriously there, and not because it is an especially good location for honey production. Beekeeping is an uncertain business anywhere, and from my limited observation it seems even more uncertain in Texas than farther north. The man who can manage 1000 colonies of bees successfully has enough business ability to succeed at almost anything. If the same kind of men were attracted to beekeeping in equal numbers in the north, beekeeping would not be regarded as the fad it is now supposed

to be, by the general public.

The group of men shown in the picture represent almost as wide a variety of conditions as would be found between North Dakota and Louisiana and between New York and Colorado, yet all are successful honey producers. Burleson and Nolan, from the cotton belt, get most of their surplus from cotton, although there are places in northern Texas where sweet clover is coming to be important also. The cotton flow does not start until June or July, and they accordingly have a long season in which to make increase ahead of the flow. In this region the bees often reach swarming strength in late April or early May. To make the most of this condition, Burleson sells early reared bees in packages for the northern trade and then builds up again in time for the cotton flow. With a crop of bees and a crop of honey, he has a double safeguard against poor seasons and accordingly a very dependable income. Few men are so located that they can produce both package bees and honey and do justice to both. The market for bees comes early, and, in most cases, to supply this market will reduce the bees to such a point that they are not in condition to gather any honey when the flow comes. In this section the flow does not come until a month or six weeks after the package season, which gives ample time to rebuild the working force in all colonies not too badly reduced.

There are few plants which are important to the beekeepers in all parts of Texas. Horsemint, perhaps,

is the most widely distributed. It yields large crops of rather inferior honey from the north to the Rio Grande Valley and far toward the west. The cotton plant is grown in nearly all parts of the state, but, since it yields surplus honey in quantity only on heavy black soils, it is of little importance to the beekeeper in the sandy regions. Texas probably has a longer list of honey plants than any other state, unless it be California. Most of the plants reported as valuable by the beekeepers in all parts of America are to be found in some section of Texas.

There are a few, like the huajillo, which are not heard of outside that state. Huajillo is found in only a limited area of Texas and is a wonderful source of nectar when conditions are favorable. Uvalde honey from this source became famous many years ago and many carloads were produced for several years. Huajillo is found only in the dry country south and west of San Antonio. This region is subject to extreme drouth, and as a result the beekeeper often fails to get any surplus. It is a region of extremes. The honey crop is likely to be very heavy or nothing at all.

The same conditions prevail in all the region where mesquite is the principal source of nectar. In the Uvalde region mesquite and catclaw are important along with the huajillo. However, mesquite is found far to the north and east of the region occupied by the huajillo. Mesquite is common for a long distance north

and east of San Antonio and adds to the security of the beekeeper in the southern part of the cotton belt.

In the southwestern region, cactus plants are the most characteristic flora, next to mesquit. One picture shows a typical view of cactus plants and mesquite trees and the cover shows a close view of Miss Hasslbaur and a cactus plant to give an idea of the height to which the cactus grows.

Yancey Brothers, of Bay City, are located near the Gulf Coast in a low and flat section with very mild winter climate. In this section there are long and slow flows especially adapted to the breeding of bees and queen rearing, and package shipping is the branch of beekeeping to which the region is best adapted.

One remarkable difference between Texas and California lies in the fact that California beekeepers depend upon the eastern markets to take their product, while the Texans talk so much about the high quality of their honey, that they have made Texas people believe that it is especially fine and have created a home market that takes it all and cries for more. The Texas Honey Producers' Association is an organization of the beekeepers of that state which successfully markets all the honey of its members at a good price. Manager LeStourgeon is the biggest booster ever seen at large, outside of California. If you spend three days with him he will almost convince you that Texas is better than Illinois or any other state in which you happen to live. He doesn't have much to say about the drouths and sandstorms and floods, or the extreme heat, or the bugs and other incidental annoyances which a northern man is likely to notice, but he talks unceasingly about the mild winters and the generous-hearted people, the big cotton crops and the fine quality (?) horsemint honey, the delicious figs and beautiful flowers. If he can sell Texas climate to a northern editor, it is no wonder that he can sell Texas honey to Texas people.

Like the rest of the southern states with a large variety of plants yielding nectar, Texas has much honey of poor quality. There are so many plants blooming at different times that it is difficult in most localities to keep the high quality honey entirely separated from the poor grades. Yellow-tops (*Ximenesia encelioides*) is common over much of Texas and blooms in mid-summer. It is reported as one of the most dependable sources of nectar, being little affected by heat and drouth, but the honey is dark in color and strong in taste.

Difficulties.

Large scale beekeeping offers some peculiar difficulties in Texas. The mild climate makes it possible for the bees to fly throughout most of the year, and in those regions where there is no winter flow of nectar there is a serious problem of conserving the bees as well as the stores. When bees are active, with no honey in the fields, they are worn out in

useless searching and far more brood must be reared to bring them through in good condition than is the case in the north, where the bees are quiet through a long period.

Again, under such conditions wholesale robbing is easily started, and once started is not easily stopped. Moths are very destructive in mild climates, where they are active throughout the year, and the care of the extracting combs, during the season when no flow is on, requires some thought. Many beekeepers leave their surplus combs in the care of the bees during the winter months. (This applies more especially to the southern portion of the state.)

In the desert regions there is a serious shortage of pollen at times, and then the beekeeper finds difficulty in maintaining his apiaries even though he feeds liberally with sugar syrup.

During favored seasons large crops are harvested and many men start into beekeeping who are not equal to sticking through the years of adversity which are sure to follow. While the beekeeper who knows his business is able to make a favorable showing through a ten-year average, he must be prepared to meet several seasons of poor crops or of failure. It is the off years that try the metal of the beeman.

The Package Business.

When I see the wonderfully favorable conditions which prevail in much of Texas, for early spring brood rearing, and remember the cost of wintering in many northern



Horsemint yields large quantities of rather inferior honey over much of Texas.



Yellow-top is one of the most dependable sources of summer honey in Texas, but the quality is poor.

regions where good honeyflows are the rule, it seems to me that a way should be worked out which will permit the beeman in the south to raise the bees to gather the honey in the north. If such a plan can be worked out it will add much to the prosperity of both.

The southern beekeeper can very nearly depend upon his ability to get his bees up to swarming strength very early. In some northern localities he can depend upon a crop of honey if he can get the bees, and the farther north one goes in good bee-keeping territory the more certain is the honeyflow. What we need to do to insure the prosperity of both, then, is to work out some plan of placing the surplus of bees reared in the south into northern apiaries at a moderate cost.

It is now much cheaper to ship bees in packages than was formerly the case when we shipped full colonies. Will it not prove cheaper for the northern man to buy packages of bees in the spring than to winter over his colonies? If he has drawn combs supplied with honey and pollen, ready for the bees on their arrival, will he not get better results from his packages than from wintered-over colonies? These are questions that remain to be answered, but it is very plain that the Texas man can produce bees cheaper than the man in the north and at the same time the man in the north gets more dependable honeyflows. In the intermediate region from New Jersey to Missouri this would not apply, but in the Dakotas and the prairie provinces of Canada there can readily be developed an unlimited market for live bees if they can be delivered safely and at a moderate price. at the right time.

While there are parts of Texas where honey production may pay better than the rearing of package bees, there are large areas in the southern part of the state where the

average surplus yield does not exceed twenty-five pounds per colony, for a ten-year average, according to the reports of the resident beekeepers. In this region the bees breed throughout at least ten months and sometimes an even greater portion of the year. In contrast to this, in Manitoba I have found beekeepers who report a ten-year average of 150 pounds per colony. The Texas beekeeper finds his greatest problem in preventing his bees from converting everything they gather into brood. The northern man finds his greatest problem in getting enough honey converted into bees early enough to provide sufficient force to make the most of the crop. In my opinion, the day is not far distant when the two will join hands to their mutual advantage.

Bees and queens can undoubtedly be produced much cheaper in the south than in the north, but much remains to be done to insure delivery to the customer in such condition as to eliminate the losses which destroy the profits of the southern breeder and at the same time add to the cost of the northern customer.

IS SWEET CLOVER SOMETIMES A MENACE?

By Clayton L. Farrar.

Observations made in regard to the nectar yielding qualities of white clover during the past two years indicate that, in some localities at least, sweet clover is a menace rather than a blessing to beekeeping. However, this condition will not be found in all localities, since such large crops of sweet clover honey have been so often reported.

The sweet clover at Abilene, Kansas, has failed to produce enough nectar for the bees to store any honey. At Manhattan, which is fifty miles east of Abilene, and where practically the same soil and climatic conditions are present, con-

siderable surplus has been obtained from that source.

Colonies of average strength were kept on platform scales at both Abilene and Manhattan and the daily changes in weights were recorded. On comparing the daily changes in weights with the dates of blooming of the different honey plants upon which they were found working, it was seen that no honey was stored at Abilene during the period that the sweet clover was in bloom, whereas at Manhattan they stored an appreciable amount. The bees ceased work on the sweet clover at Abilene and began to store honey as soon as the alfalfa began to yield nectar.

In 1923 the sweet clover flow began at Manhattan on June 19 and ended July 11, during which time good colonies stored from 35 to 60 pounds of sweet clover honey. The sweet clover was in full bloom at Abilene during the same period and apparently the bees were reaping a great harvest, yet they failed to store any honey.

It might appear as though the locality at Abilene was overstocked. There was a ten-acre field of fine sweet clover within a half mile of sixty strong colonies of bees, as well as that which grew along the roadsides. But since no honey was stored during the period in which the sweet clover was in bloom, it would seem that the blame should be placed on the sweet clover rather than on the bees.

On examining the honey stomachs of bees from several colonies in the yard, as much nectar was found in those bees leaving the hives as in those returning, in most cases. This condition did not prevail at Manhattan, where the bees were storing honey.

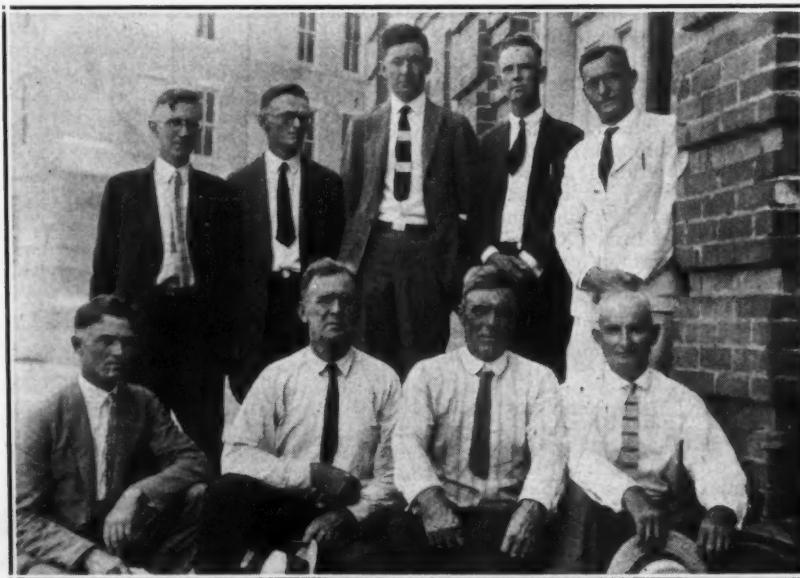
The fact that the bees worked on the sweet clover regardless of how limited the supply was indicates that they are strongly attracted by its odor. The result of this is very demoralizing upon the colonies, since they use up their energy to no advantage and can serve no purpose when no nectar is available; thus it is constituting a menace to beekeeping.

If colonies in an apiary are kept on scales, it would be possible to determine whether sweet clover has similar tendencies in other localities.

Abilene, Kansas.

A New Publication

The *Busy Bee* is the title of a new quarterly magazine of 12 pages and cover published by the Heart of America Beekeepers' Association at Kansas City, Mo. It is a very creditable little publication, filled with matter of interest to Missouri beekeepers. The subscription price is 25c per year and it is probable that many beemen from other states will enjoy its visits four times yearly. Mrs. C. W. Baxter, 4925 Wyandotte St., Kansas City, is the Secretary of the organization and subscriptions should be sent to her.



A group of 1000-colony Texas beekeepers. Upper row, left to right: Sternenberg, Yancey, Nolan, Clark and LeStourgeon. Lower row: Yancey, Victor, Robinson and Burleson.

✓ BEHAVIOR OF WATER-CARRIERS

By Wallace Park, Iowa Experiment Station.

DURING the summer of 1918, a one-frame observation hive was installed in my office. It was placed near a window and was provided with a tunnel leading to the exterior of the building. Ordinarily the temperature in this building does not go much below 57 degrees F., and having never heard of such an observation colony being kept through the winter in such a place, I decided to try it out. Owing to a coal shortage, the temperature in the office dropped nearly to freezing a couple of times during the winter, and since the colony was not strong in bees to start with, the colony dwindled considerably in the spring. It managed, however, to pull through, and every winter since then two such colonies have been successfully wintered there.

On a Flight Day in Winter.

After the middle of November, 1918, there was no good flight day until December 29, when, shortly after dinner, I was surprised to find that many of the bees were returning loaded. I suspected that they had found a weak colony which they were robbing. Two dozen of these loaded bees were caught as they entered the hive, but upon putting them to the test they were found to be carrying nothing but water. Parenthetically it may be stated that I have developed a method for detecting positively whether a bee's load is of nectar or of water only, without injury to the bee. The method is reserved for future publication.

These water carriers hustled through the glass-covered tunnel and into the hive with the air of one bent upon important business. When they reached the inside of the hive and climbed upon the comb they began at once to shake their abdomens vigorously from side to side, all the while running in arcs of circles, turning alternately to the right and then to the left.

Other workers, attracted by the behavior of one of these dancing water-carriers, attempted to approach her. Usually there were from one to four or five such bees following each dancer, and at more or less frequent intervals the dancer paused long enough to pass out a sip of water to one of the nearby workers. An occasional bee obtained a long draught. Sometimes the recipient was one that had been following, but frequently it was some other bee which apparently had shown little or no interest in the dancer. Thus the water-carrier continued her dance, pausing now and then to deal out portions of her load to various individuals until it was all gone.

Other Observations.

Since December, 1918, I have made a large number of observations

and numerous experiments on water-carriers, and in the following paragraphs a composite description of certain phases of their behavior is given.

At times a water-carrier will dance for a full minute before offering to give up any of her load, but often she begins to pass out the water after a few seconds of dancing. Sometimes she gives a small sip to each of half a dozen bees in quick succession before resuming her dance, and then, after dancing a while, transfers the balance of her load to some one or two bees. It is not at all unusual to see two or three bees being supplied all at one time by a single water-carrier. In some instances the entire load is disposed of to two or three individuals, while in other cases a single load is distributed among as many as eighteen workers.

Again, a water-carrier enters and performs a brief dance, then proceeds rapidly to dispose of her load to this bee and that as she, figuratively, elbows her way through the crowd with the same business-like attitude with which she entered the hive.

Having disposed of her load, the water-carrier begins preparations for her next field trip by securing a small amount of food from one or more of the so-called "house-bees"; or, failing in that, she goes to a cell and takes a sip of honey. It is not unusual for such a bee to meander over the comb for a minute or more after disposing of her load, but more often she starts at once for the field. But before making the final start, she almost invariably gives her tongue a long sweep between her front teeth, rubs her eyes and often cleans her antennae. Then, with a quick look around, as if taking her bearings, she sets off for the exit in great haste. These preparations and the quick start are so characteristic that a close observer is soon able to tell whether a bee is starting for the field or whether she is just going to another part of the hive.

As the dancer proceeds with her maneuvers, every now and then one of the interested followers may be seen to leave for the field, until by the time the dancer has disposed of her load a dozen or more may have departed for the fields to search out the source of supply. Sometimes these bees obtain a little food from other bees or from the cells of honey before leaving. Upon their return with loads of water they also perform the dance. Dancing water-carriers are most numerous on a flight day in winter or spring following a period of confinement.

Parallel Cases.

The dancing pollen-carrier has been mentioned in bee literature for more than two hundred years, but apparently the dancing nectar-carrier

was not described until the recent papers telling of the contemporaneous observations of Von Frisch and myself. And, although I have not had the privilege of reading his work, I am led to believe that even Von Frisch had not discovered the fact that water-carriers also perform a dance.

So far as I have discovered, the dance performed by nectar-carriers and water-carriers is identical, and the only way in which that of the pollen-carrier differs from the others is that she does not give over her load to other bees, but deposits it directly in a cell. Some authorities, including Langstroth, state that the other bees sometimes assist in unloading a pollen-carrier by nibbling the pollen from her legs, but I have never seen this, although I have watched particularly for it for nearly five years.

According to Von Buttler-Reepen (American Bee Journal, 1923, page 346), Von Frisch found that pollen-carriers perform quite a different kind of dance from that of nectar-carriers; but either bees do not dance the same here as in Germany or else my powers of observation are insufficient to detect the difference between the dance of a nectar-carrier and that of a pollen-carrier, except as noted above. Bees in this country may be out of date, for they still adhere to the old-time "wag" or "tail dance," regardless of whether they carry nectar, pollen or water.

The significance of this dance as a means of communication has already been pointed out by the writer in an article on "The 'Language' of Bees (A. B. J., 1923, p. 227) and another on "Some Whys of Bee Behavior" (A. B. J., 1923, p. 399).

A Menace to Western Beekeeping

The alfalfa weevil is most serious in the western alfalfa country where, when in abundance, it frequently destroys the entire hay crop at the time of the first cutting. It was first noted in Utah about 15 years ago, but since has spread through southwestern Wyoming, western Colorado, northern Nevada, all of Idaho, and to eastern Oregon. Parasites to control the alfalfa weevil were introduced about 10 years ago and at least one has become established and is aiding materially in checking the spread of the pest.

The most that can be hoped for in the use of parasites is to check the increase in numbers of the insects. The parasite naturally cannot exterminate its host without exterminating itself. Supplementing the alfalfa weevil parasite control, fairly satisfactorily sprays have been developed to aid in the fight against it.

The reductions due to this insect seriously curtail the production of honey from alfalfa. Any attempts to control the weevil, therefore, are of some considerable interest to bee-keepers.

HONEY AS A NATURAL FOOD

Why Beekeepers, Selling Direct to Consumer, Should Find Better Market

By Frank V. Faulhaber.

A beekeeper of many years' experience recently declared the reason honey consumption is not greater is because of lack of proper publicity. And, like many others, he contended beekeepers should easily get higher prices following more concerted sales efforts. The beekeeper producing honey on the smallest scale has a big opportunity to create a better demand, and this can be done right in his own community.

First of all, honey is a reasonably-priced product. Compared with other sweets it is cheap. Too, in many ways it is more desirable than a host of other goods intended for the sweet tooth. By reason alone of its medicinal qualities it is to be favored over many other articles. But one truth that seems to escape many beekeepers, and that is not taken advantage of, is that honey is a natural food. It were an easy matter to enumerate the many sweet products of which the same cannot be said. Therefore, bring home to prospects that honey is a natural food, good for all.

It should not be overlooked that the proponents of the simple life include honey in their list of best foods, and they cite many edibles that one is advised not to touch. Certainly there is much of significance here. The only time one really can find fault with honey is at such times when the product is adulterated. Here we have another important point that the small beekeeper, selling direct to consumer, should particularly stress. Bear in mind, the more a prospect is told about your product, the more you will sell, and more easily.

Today there are many people who fight shy of sweets because they feel these can do them no good, being rather harmful. The person ever-thoughtful of his teeth will have nothing whatever to do with candies. Many times he bases his opposition on sad experience. Knowing what he does of tasty chocolates and similar goodies, he is inclined to place other sweets, including honey, in the same category—honey, he is positive, would be harmful to his teeth. Here, to be sure, is a prospect who should be properly educated.

In a booklet, "Eating for Efficiency," issued by the Health Extension Bureau, Battle Creek, Mich., appears the following:

"Except in cases in which food is forbidden because of ulcer or inflammatory conditions of the stomach and intestines, the chief object of fasting may be secured by wholly excluding protein and fats. Carbon-

hydrates are antitoxic and render valuable service in destroying the poison-forming bacteria. It is important that the intestinal secretions and excretions should be regularly discharged from the body during fasting as well as at other times. Daily movements may be secured by the taking of substances which supply bulk without protein. The following are serviceable:

Honey. Fruit Gelee.
Fruit Juices. Melons.
Juicy Fruits."

In the paragraph preceding the beekeeper has another sound argument favoring honey. Oft has the obese person been enjoined against the use of sweets; we usually find that rich bon-bons are the cause of all the trouble. But what a wonderful part here honey could play. Honey, in truth, is a natural food, non-fattening; the very fact that it possesses medicinal qualities should bring it to higher favor.

There have been some beekeepers who have long since pointed out that honey is a natural food, but not enough. Meanwhile, we can observe other sweets, less to be craved, commanding greater favor each year. What about honey? Is there not a big demand in the offing that should be stimulated?

The person who for any reason has heard objections to sweets will many times avoid honey along with other tasty products. I personally know two people who would not have anything to do with any edible that comes under the class of "sweets." When for the first time honey was suggested as permissible, there was countered the same objection—honey was thought of, the same as ice-cream, candies, pastries and other delectable goods. Certainly there is an illusion about the true food value of honey that beekeepers should remove.

Doctors have taken a stand against ice-cream, some contending that it is not easily digestible. It must not be forgotten, either, that ice-cream is fattening. Some people, of course, want to get fat; that is their business. As between honey and ice-cream, honey is to be chosen. The person who is inordinately particular about what he or she eats should readily enough be convinced of honey's proper place on the table. It is up to every beekeeper, the small producer having a dandy opportunity within his own community.

Naturally, to sell more honey the beekeeper should tell more about his product. Here newspaper advertising has a place. A thousand advertisements in the interest of honey could be written and the work would not be started. Don't, by any means, neglect to mention honey as a natural food, good for young and old.

How many beekeepers canvass prospects? When canvassing is done—and this can be undertaken in a large way—the beekeeper should stress honey's advantages as a natural product. Many times the

person unreceptive to your proposition can be encouraged into the fold rather easily when he or she is told that honey comes from the bee, is a nature's food, wholesome and nourishing. Honey, indeed, is a purity that can stand inspection of the most painstaking epicurean and upholder of the simple life. Proper education will work wonders here.

Another thing, many people have bought a container of honey; it did not appeal; forever after they are prejudiced to all honey. Unfortunately they have obtained a grossly adulterated form of honey. A single instance of this nature is injurious to the beekeeper. However, his timely educational steps should bring about a change of mind. Certainly the beekeeper who is seeking a local market has a golden opportunity before him here. Tell prospects—and everybody should be a prospect!—all about your honey; it has more than a delightful taste—and in that it is excelling! it is a real food, and a natural one.

There is nothing at all detracting to honey; the only trouble is that it is not advertised enough. Honey is a sweet, a medicine, a food, and a natural one. Tell people about that!

New York.

United States Big Wood Consumer

Consumption of wood in this country, says the Forest Service, equals about two-fifths of the entire wood consumption of the world. We use about 22½ billion cubic feet a year and the per capita consumption is 212 cubic feet, of which a little more than half is saw timber, the balance consisting of cord-wood. If we include the losses by fire, insects, and disease, the total drain on the forest is close to 25 billion cubic feet. At present we are growing only about 6 billion cubic feet to replace this drain. It is estimated, however, that if the entire forest area of 470 million acres were placed under intensive forestry we could produce ultimately 27 billion cubic feet a year.

Ants.

Tell Enquirer (page 462) how your Uncle Louis takes care of the ants: Save all the old coffee your wife has and pour it over the place where ants visit; or, if they are between covers (like mine, for I have double cover on my bees) then put a tablespoonful of ground coffee between; that drives red ants away. I have no experience with large black ants.

Iowa.

Avoid Stings.

Tell Minnesota (page 461) to take a bath in salt water, or a salt glow, as they call it, and drink plenty of sweet milk. I wash hands and arms with weak salt water; then bees will travel all over my hands and not sting. Yet I am not sting-proof. My bees are very cross this summer, only a few hives are quiet.

Iowa.

A DEMONSTRATION PLAN FOR HONEY CANDY

By John T. Bartlett

HERE are a handful of interesting sidelights on the window selling business in honey candy of V. L. Moore and "Tex" Falk.

Either man, if demand requires it, can make 300 pounds of candy a day.

They sell their candy at the rate of \$1.25 a pound, in sample 25-cent bags; or \$1.50, put up in an attractive box.

They pay the druggist, candy store, restaurant, or other business place in which they operate, 25 per cent of gross receipts. Materials cost in the neighborhood of 25 cents a pound.

Business doubled when, to their window demonstration, they added a bunch of bees, feeding on comb honey in a glass exhibition case.

They have worked their stunt for three and one-half years starting from Texas. Each year they wind up the season in New York City, where their "big money" is, and where their elaborate Christmas boxes bring \$5.00, \$8.00 and even more a pound.

The writer happened on Moore and Falk working their window business in Pueblo, Colo., where they had rented window space at the town's leading corner, occupied by the Palace Drug Company. A few blocks down the street I had seen a group collected before a window, and had stopped, as the average human does, to ascertain what aroused the interest. It was only a sign painter, engaged within the empty show window in putting an advertising message on the pane. I had passed on, reflecting how unfailing a device to capture passing traffic's interest is a person at work in a store window.

Here, in a drug store, was another man at work. He had a small table before him. He was engaged in making candy. On the top of the table was a plate of thick glass. Directly in front of the worker was heavy liquid chocolate spread on this glass, in a circle perhaps eight inches across. At one side, on the worker's right, was a rectangular piece of cardboard covered with fresh white paper. On this was a growing array of dipped honey chocolates. At the left was a small glass jar, capacity perhaps two quarts, in which the worker scraped liquid honey from the knife with which he worked.

The crowd about the window saw the whole operation. Moore lifted a comb of honey from the case exhibited close to the window front, and separated it from the frame with a knife. He had two knives, the one not in use temporarily being immersed in water in a small pail on the floor at one side. He cut the comb of honey into some twenty-five squares.

Having done this, he poured the liquid chocolate from a porringer upon his glass. He lifted a square of the comb honey to the chocolate and with a fork spread chocolate over it. Then he transferred the dipped chocolate to the waxed paper at the right to harden. Except for nutmeats, which he occasionally put on top of the chocolates, no other ingredients entered into the production.

The chocolate was simply dipping chocolate of standard manufacture. Hot water was obtained from the soda fountain in whose window the partners rented space. With the aid of one of those double-boiler utensils every woman has, the dipping chocolate was quickly prepared. The honey was purchased from a local bee-keeper.

In fact, this business which Moore and Falk operate requires very little investment at any one time—seldom more than \$50.00 they told me. They have a Ford, in which they go from one city to another. The small collection of worker bees they have in a glass case weighs little and takes up little room. A part of the arrangement with the druggist is that he shall furnish bags and boxes.

The Big Cities Are Best.

I passed within the door, first having taken a look at the bees, which were hung against the window to the right, about level with the table at which Moore was working. Several window cards smack up against the window gave the urge to enter, if general interest in the subject had not already provided that. These cards read:

"A new one! If fond of honey, you'll love this."

"Mail it safely anywhere! A great treat to send to friends."

"Honey milk chocolates. Mailed safely anywhere."

"Most wonderful and wholesome confection ever produced. Trial package 25c."

"A new confection. 'Virgin honey.' In blended milk chocolate. A trial package 25c."

"Honey chocolates. Not too sweet. On sale inside."

These cards were placed from left to right, in the order above given with the final statement, "On Sale Inside" nearest the door, which was at the right. As advertising material, there is not much an expert would criticize in them, probably, except the reference, "Not too sweet." Moore and Falk have heard objections at times that the chocolates are too sweet, and answer a possible objection which would not occur at all to most prospective buyers.

The chocolates were on sale just within the drug store door, Tex Falk being on duty. This is contrary to the partners' general practice. Usual-

ly they operate two window stands within the same city, each hiring a girl to do the selling.

The partners were pleased to tell me for the American Bee Journal some of the interesting details of their unique business. They began with their personal history. Both were men who from childhood up had been accustomed to "facing the public." Moore for a period of years was a trick motorcycle rider, until an accident broke a goodly portion of the bones in his body. "Tex" Falk for five years was on the vaudeville stage.

"Business is poor," said Moore, coming out of the window for a breathing spell. "This town isn't big enough. We have been here three days. Probably we'll pull up stakes and leave tomorrow.

"The smaller a town is, the quicker it plays out. What we need is a big passing crowd. It's novelty to a great extent which causes the public to come in and buy. The bigger the number of new people each day in the crowd, the better.

"In a city of 500,000, this proposition in a suitable location is good for a two-year's run. In a city of 40,000 it's good for only seven to ten days at the most. Before the end of that period sales are dropping off.

"We have to have good locations. The best in the town is none too good. The first thing I do when reaching a town is to go through the business streets, watching the corners. The corner which looks to me best, and I have pretty good judgment, I try to get. Usually I get it. I tell the proprietor what we have done in other places—show actual receipts of several hundred dollars a day. I let him sample the candy we make. The 25 per cent we offer to give him for use of window space is a large, liberal percentage. It is very seldom that we don't get the location. Usually a talk of three to five minutes settles the matter.

"We tell the merchant that besides the percentage he gets on our sales, we are bringing a lot of people into the store, and many of these will buy other things of him.

"About half of the money we take in is return for our personal labor and profit. We need to take in \$50 a day to make what we call real good money. Often in a good location we take in \$100 a day.

"Evening is the best part of the day for sales, usually."

As they put it in their vernacular, Moore and Falk do not often "play" small cities. They fell into an error in coming west, which the writer has observed is rather common. They assumed Cheyenne, Wyo., was larger than it is, and struck for there first, but, after looking the town over, left without attempting to stage a window campaign. In Denver they operated in the Scholtz-Mutual Drug Company window at Sixteenth street and Curtis street, undoubtedly the best corner in town. The drug company is reputed to do a volume of half a million a year here. Several

other locations, one of them the Royal restaurant, were worked.

The Pueblo stop was only for four days. Trinidad they planned to "play" if it sized up right, then Albuquerque, N. M., and so on to the coast.

In prevalent slang in the West at this time, "Get a kick" is foremost. Moore and Falk, in "getting a kick"

out of their window selling, are quick to declare that the fact that honey is used in the candy is mainly responsible. Honey is something the man in the street just naturally has good-will towards. That being so, the appeal of the sales method is great enough to produce very profitable sales where the crowd is large.

PACKAGE SHIPMENTS TO MANITOBA, CANADA

By L. T. Floyd, Provincial Apiarist.

LIKE that article by Jay Smith in the August issue, and when he says "I believe no bees should be shipped on combs" he strikes a responsive chord right here. Have you read that article? Well, if not, turn back to that issue and read it; you will find it on page 402. However, you need to meet the writer and get a good look at him and spend a day or two with him, and you will then understand that when he says he believes a thing he certainly has had the experience in all lines of beekeeping work to make his beliefs worthy of the attention of the rank and file of beekeepers.

Last spring thousands of packages of bees came through our Winnipeg port of entry from all of the southern states, and I had the opportunity of inspecting most of these shipments, and I was much surprised and interested to note the success of the Texas shippers, who send their bees mostly on sugar syrup stores.

One shipment of twenty-five packages in particular aroused the attention of all beekeepers who happened to be around the customs office.

It arrived on a Saturday morning and had been six days en route. It was consigned to an address in St. Boniface (no street address given), across the river from Winnipeg. When the expressman found the name in the directory he sent a messenger who brought back the news that the party had moved away two years before and nobody in the neighborhood could give information as to his whereabouts. With my assistance we finally located the party on Monday afternoon, too late to get him to the office that night. The bees were still in good condition on Tuesday morning, 'nine days from their Texas shipping point. These bees were shipped on thin sugar syrup in cans inverted and fastened in the center of the box, and a small hole in the center of the cover from which the bees could take the syrup as needed.

I, also, personally received some packages from Chico, Calif., one of them a three-pound package, and it did not use a half pound of syrup in six days' travel in very warm weather, arriving on May 14. There were no dead bees in this package.

There is one point I think is important with long distance shipments on syrup. The syrup should be thin,

so that there will be no danger of the holes in the cans filling with grains; and the holes should be very small, so that the syrup will not shake out. The three-pound package above noted was supplied with two cans holding about a pound each, with one hole in the cover of each can, so small that the point of an ordinary pin could only be seen protruding through the hole. Only a small amount had been used from each can; not more than a half pound from the two.

Some packages arrived dead on candy stores, but we did not find this with any packages that had been shipped on syrup, except where the holes in the cans were so large that the syrup leaked out.

One \$90 shipment from California arrived dead because of the fact that the cans had been filled with the syrup and covered with cheese cloth. The cans were similar to those usually used for brass polish, with a cap about an inch across, which is generally covered with a screw cap. This cap was removed and two thicknesses of thin cotton or cheese cloth tied over the hole. This allowed the bees to take it too freely and the cans were dry in each case.

From last season's experience, we prefer to receive package bees shipped on syrup as a package shipped in this manner arrives in perfect condition or entirely dead from starvation. It is much easier to get replacements for dead packages than for those half or three-quarters dead.

Some of those who shipped up here last season either had little or no experience or were very poor shippers, and the package business was not as satisfactory as the season before; but at the same time the losses were not more than about five per cent.

If the interest in beekeeping up here continues, it will take 10,000 packages to supply this province next season. This very fact makes the shipment of bees on combs a great menace, as we have not the necessary funds to inspect them properly. They come in here and are scattered over a whole province, and it would take ten or more inspectors to cover this territory in a season.

That is why we are fighting the importation of bees on combs, and unless the shippers see it that way they will soon ruin their own business as well as ours.

BISCUITS AND HONEY

By Mrs. Luelia B. Lyons

Touring the country helps the appetite; that's why I stopped in a little town, for something to eat, only to find the town had no restaurant. I next inquired for a grocery store. No small wonder there was no restaurant. When I went in the door, the odor of freshly-baked biscuits filled my nostrils. A local bee culturist was selling honey via the biscuit route. The store baker was baking the biscuits and they were serving biscuits and honey to their customers that day. People were buying honey by the dozens of sections. So impressed with it, was I, that I immediately purchased two sections and took them with me. At the next town I ordered hot rolls, and had the honey placed on a dish at my plate. It aroused the curiosity of quite a number, and I told them the strange tale. The hotel keeper promised to go to that neighboring town and purchase a case of honey the following day.

Delivering Swarms by Parcel Post.

Delivering swarms, as soon as hived, on one comb, by parcel post. This is in Switzerland, where the distances are short. The shipping boxes are usually returned to the shipper, who fills them again when opportunity offers.

The photograph was taken by Mr. Pierre Odier, who thus sends out a



Bees delivered by parcel post in Switzerland.

great number of swarms in different directions. He lives near Geneva and was a relative of the late Edouard Bertrand, who published the "Conduite du Rucher" (Management of the Apiary), probably one of the most popular works on progressive beekeeping in Europe.

ILL-ADVISED PUBLICITY

Danger of Wrong Impressions from Reading About Bee Diseases, Etc.

By Robert S. Merrill.

HOW many persons are afraid to eat honey, thinking that it is poisonous or contaminated?

What ideas do references to "bee diseases" put into the heads of the literal-minded?

Are folks who are interested in beekeeping too close to the work to realize that what they say brings up an entirely different picture in the mind of the average person? Unpleasant thoughts are brought up by the use of the word "disease" in connection with anything that has to do with food. Let anything be printed about "cattle diseases," "hog diseases" or "poultry diseases" and a surprising number of persons will eliminate that food from their diet until time erases all unpleasant thoughts.

An article, "Reckoning With the Literal Mind," in an advertising and selling journal, contained some interesting experiences. A manufacturer was investigated as to why his product was not selling in the South. It was found that the black silhouette advertisements were mistaken for negroes, and racial prejudice kept the white folks from buying. Of two women overheard on a street car, one remarked that she never used Campbell's soups because they were fattening. Questioned as to how she knew, she replied that "They're fine for fattening children. Why, all their ads show fat children and tell about food value in the soup." An advertiser pictured his product with the phrase "15c for 1," and had trouble with customers who insisted it had been offered "15 for \$1."

If I had not read this article I would not have wondered at some things that have appeared in the newspapers. But I was looking at a collection of clipped material relating to bees and honey, when it popped into my mind as to how the literal-minded would consider the headline, "Illinois Bee-men Ask Larger Fund to Fight Disease." This was the headline used by the Chicago Tribune over an article telling what the state and Cook county associations were doing to get an increased appropriation for inspection work.

Of course, the bulk of the regular readers of the Farm and Garden page would give it only a natural and passing thought. But how about those who knew absolutely nothing about bees and honey—and yet ought to be regular purchasers of honey—and would see the headline only in passing? The circulation of the Sunday Tribune then was, in round numbers, 800,000. Say there were only an average of three readers to each paper and there would be 2,400,000 who might see the article.

(The Farm and Garden department is syndicated to other papers in different parts of the country, too.)

Can you imagine a literal-minded person reading this extract from remarks by Samuel Cushman, of the Cook County Association?: "But often men like these are hit by diseases and are put out of business. They need protection by having an inspector paid by the state to help fight these diseases."

Because it says that men are hit by diseases and put out of business, I'll venture that a certain proportion of men, women and children would take it to mean that some disease communicated from bees or honey proved fatal, especially as (the way the reporter quoted Mr. Cushman) "they need protection" and the preceding noun is "men."

Now, I am not pointing to this one article as a thing that was disastrous to the sale of honey. It is cited only as an example—to demonstrate that a great many persons will be impressed when they see most unpleasant words in connection with bee-keeping. "Foul brood" and "bee diseases" appearing in local papers do not make the unintiated want to go right out and get some honey for the table.

However objectionable those words "foul" and "disease" might be, there are still worse things being printed to make the thoughts of honey disagreeable to many persons. A little farther along in this collection of clippings I came across one with a two-column headline on it:

HONEY THAT DROVE MEN MAD

Abundant Proof That Certain Products of the Bee May Contain Dangerous Poison.

Note that the first line of that heading refers to the dim and remote past. But the second part speaks of the present.

This clipping was from a paper in Nebraska. The particular town does not matter, because it was only one of many papers that printed it. Its wide circulation will be explained a minute later; first read the item:

"In Discovery Prof. W. R. Halliday, with the help of his colleague, Prof. McLean Thompson, has cleared up a difficulty unsolved by editors of Xenophon's "Anabasis." The historian describes how the retreating Greeks, when they arrived near Trebizon, ate some honey, with effects ranging from intoxication to insensibility. Some authorities have denied that poisonous honey was found in Pontus, but the writers now point out that there is no evidence to show that the breed of bees in

Pontus or the general climatic condition was responsible for this poisonous honey. When honey is produced in excess and the floral parts fail to develop, there results an accumulation of by-products in which toxins abound. When the competition for nectar or pollen is intense many insects develop a biting habit, piercing the tissues of plants in search of short cuts to food supply, and this habit results in the formation of poisoned honey. The observation of Pliny that honey was poisonous in some seasons and not in others is thus proved to be accurate and can be explained on scientific grounds.—From Nature."

If you were trying to sell honey in your community, wouldn't you be tickled to death to have that appear in your local paper? Maybe it has appeared in your community, because it certainly has had considerable circulation.

In the first place, the editor of that Nebraska paper did not write it. Perhaps he doesn't know he ran it. It came to him in what is known as "boiler plate." That is, the type had already been set up and cast in plate form, so that if the printer had a hole of a few inches to fill up, all he had to do was to take a saw and hack off a chunk the right size.

This material was shipped to the Nebraska paper by a plate concern that supplies the same service to many other papers. Those plates are not made for any one paper—it's a wholesale proposition. By selling plates wholesale this concern can supply reading matter to the local editor cheaper than he can have the type set.

But who started the story of poisonous honey? It is credited to Nature. I could find no such publication in several United States directories, so resorted to a British press guide. There are papers called "Discovery" and "Nature" published in London. These boiler-plate houses do lots of editing with a pair of scissors, so there is no telling how many places it appeared in the United States before it was put into plate to be broadcast.

At any rate the idea of poisonous honey has been impressed upon a great many persons in two countries. How many of those persons ought to be customers of the beekeeper?

What can be done to prevent and offset any wrong impressions that people might get about honey?

For one thing, the beekeeper can be careful about "talking shop" in giving information to a newspaper. I do not mean to withhold any information from a reporter, but to consider the language he uses—consider not what would it mean to another beekeeper or a knowing citizen, but what sort of a picture would it bring before the literal-minded person. Would it suggest anything unpleasant in any way about honey? Would it actually hurt business?

When items and articles are published that are unfair to honey, or that are untrue in part or wholly untrue, they should be clipped from

the local paper and sent to a bee paper or an association official. Thus they can be traced to their sources and future errors prevented. Many newspaper syndicates and plate manufacturers send out material that is unjust at times to different industries. This is not due to malice, but is the result of carelessness and the method of getting material as cheaply as possible through using a pair of scissors.

Then there is the constructive method of educating the people in your community about beekeeping, by trying to get as much real information about it as possible into the local papers.

Above all, get the habit of looking at beekeeping from the outside so as to prevent the literal-minded from slowing up the sales of honey.

PRODUCTS FROM HONEY AND BEESWAX

By C. P. Dadant.

In our August number we mentioned a French manufacturer who sent us twenty-four different samples of goods made from honey and beeswax. We now exhibit a picture of the lot.

There are four kinds of candies, chocolate drops, cough drops, mint candies, two jams, two jellies, all containing honey as part of the sweetening; varnishes, three kinds of shoe polish, and wood polish, all made with beeswax as a base.

We should bear in mind that sweets made of honey do not have the unhealthy properties existing in sweets made of the chemically made sugars. If you wish to learn the difference to health between the artificial sugars and the natural product, honey, read the book entitled "Science of Eating," by Alfred W. McCann. As well have artificially made milk or butter as to use artificial sugars which contain only about 30 per cent of sweet, and think we can

keep our health and our children's health with such products. Man's laboratories will never take the place of the artistic laboratories of nature. Honey is an essence of flowers, distilled by nature, just as milk is distilled from the grasses and the grains in the udder of the cow.

We complain of being unable to sell our crops, and yet we neglect many outlets for our product.

A very fine point of the samples received, as above stated, is the delightfully pretty make-up of the lithographed tin containers, for those boxes are not labeled, but lithographed on the metal. We can learn some good things from Europe yet.

HOW IS FOULBROOD SPREAD?

Wouldn't it be "grand and glorious" if someone answered this question 100 per cent? Most of the means of spread seem obvious: the robbing of honey, exposure of materials, interchange of combs, general carelessness. In the western part of Illinois, for the past few

years, we have seemed to have the larger part of all the American foulbrood in the United States, and have still continued to keep it after becoming well schooled in avoiding all of these wrong things just mentioned.

In desperation, we secured the appointment of a local inspector, more or less under our direction, and scoured up every apiary we could find that had any disease. Still the spread of it in our own yards was discouragingly persistent.

Then, apparently, we hit the nail on the head. We destroyed every one of 1,500 supers full of comb, and thoroughly disinfected the supers themselves and every honey house and piece of equipment that was not in use with the bees. This year we are delighted, as disease has been reduced nearly 100 per cent and, of course, as we hope, will show a still greater reduction in 1924. If the reduction is equal, the disease will have become negligible.

Were we not dullards not to have seen this source of infection before? What easier way to carry disease about than to keep mixing up the supers and the super combs between all the colonies of the apiary? Sure enough, but so it is in most things, the obvious defects are often too apparent to be seen.

We now keep all the supers of each colony in every yard separated from all the others, and will continue to do so as long as disease is present in our country.—G. H. Cale.

Eat Fruit and Honey

"No mother needs to be told that she shouldn't feed her children too much candy," says an announcement from the Iowa State College. "Then what can the child eat? That mothers may have something to go by Miss Margaret R. Stewart, of the division of home economics, suggests the following list: Honey, dates, figs and raisins."



A fancy metal box filled with honey candy.



Samples of 24 products made from honey and beeswax.

THE RELATION OF SOME OF THE PHYSICAL CHARACTERISTICS OF THE HONEYBEE TO ITS LENGTH OF LIFE

By J. H. Merrill, Apriarist, Kansas State Agricultural College and Experiment Station.

(*Contribution No. 317, from the Entomological Laboratory, Kansas State Agricultural College. This paper embodies some of the results obtained in the prosecution of project No. 126 of the Agricultural Experiment Station.)

In almost any textbook on bee-keeping may be found the statement that "the average life of a worker bee during the busy season is about six weeks." What would be the effect if the average life of a colony of bees should be extended to "about" seven weeks or reduced to "about" five weeks? If, for instance, we had a colony containing sixty thousand workers, we would secure the equivalent of three hundred and sixty thousand weeks of work. If this average span of life could be extended a week, we could expect four hundred and twenty thousand weeks' work from them, while if the average life should be lowered one week we would only expect three hundred thousand weeks' work. When the fact is taken into consideration that the amount of honey stored by a colony of bees is not in direct proportion to the number of bees in the colony, we naturally stop and ask for an explanation. If this is true, it can and probably will be explained.

An experiment conducted at the Kansas State Experiment Station apparently throws some light on this subject. The purpose of this experiment was to determine the value of some of the physical characteristics of the honeybee in relation to its honey-storing ability. During this work the number of bees which gathered the honey in each of six hives was determined. Since the number of bees at the beginning, as well as at the end of the honey flow, was known, it was possible to compute from this data the percentage of the total number of bees in each colony which died during this period. The following table shows the percentage of bees that died in each hive and the total amount of honey gathered during the season:

Table No. 1.

Hive number	Percentage of bees that died	Pounds of honey stored
1	80.5	58 1/2
2	61.4	37 1/2
3	60.4	103 1/2
4	59.7	48 1/2
5	56.9	85
6	68.6	27 1/2

An examination of this table will

show that there is no correlation between the percentage of bees that died and the amount of honey stored. These observations covered the period between June 15 and July 26. During this time hive No. 1 stored ten pounds more honey than did the bees in hive No. 4. Hive No. 1 lost 80.5 of its bees, while hive No. 4 lost only 59.7. On the other hand, although hive No. 3 lost practically the same percentage of bees as hive No. 4, yet it stored 103 1/2 pounds of honey, while No. 4 stored only 48 1/2. A further examination of the results recorded above will reveal similar instances.

Table No. 1 offers no help in answering the question as to why the length of life in some colonies was greater than in others. However, Table No. 2 may offer a solution of the question. In this table are represented the relative standing of each colony of bees in regard to its tongue length, its weight, and the size of its stomach or carrying capacity. As, for instance, it may be seen that hive No. 1 ranks sixth in tongue length, fifth in weight, or size of body, and fourth in the size of its stomach or carrying capacity.

Table No. 2.

	Tongue.	Wgt.	Stomach
Hive No. 1	6	5	4
Hive No. 2	3	3	5
Hive No. 3	1	1	1
Hive No. 4	4	4	2
Hive No. 5	2	2	3
Hive No. 6	5	6	6

In Table No. 1 it was stated that in hive No. 1 80.5 of the bees died while gathering 58 1/2 pounds of honey. On turning to Table No. 2 we find that hive No. 1 had the shortest tongues of any of the six colonies and ranked next to last in the size of bees, yet in honey stomach it ranked fourth. Although the percentage of bees which died was large, they stored a very creditable amount of honey. Colony No. 2 had medium length tongue and medium sized bees; consequently it only lost 61.4 of its entire force, but as it ranked next to last in size of stomach it only gathered 37 1/2 pounds of honey. Since the bees in colony No. 3 possessed the largest stomachs, greatest weight and longest tongues, it was able to store 103 1/2 pounds of honey, with a loss of only 60.4 of its bees. The bees in colony No. 4 had stomachs nearly equal in size to those in No. 5, but as they ranked fourth in the length of tongue and the weight of the bee, they only stored 48 1/2

pounds of honey. Colony No. 5 was second in size of body, second in length of tongue, and had nearly as large a stomach as No. 4. It stored 85 pounds of honey, with a loss of 56.9 of its bees. The bees in colony No. 6 were low in all their physical characteristics, low in the amount of honey which they stored, but ranked high in percentage of bees which died gathering the crop.

These results seem to indicate that those bees which excel in their physical characteristics are able to gather more honey with less work, and consequently live longer than bees which are less fortunate in the possession of these qualities. The fact that the life of the bee depends on the amount of work which it does probably explains this. It has also been shown at this station that there is a direct correlation between the size of the honey stomach and the amount of honey stored. Then it must follow that if the bee possesses a tongue of sufficient length to enable it to gather nectar with a minimum amount of work, a body sufficiently large to carry this nectar to the hive without undue effort, the life of each individual in that colony should be prolonged. This would result in a greater total amount of work from a given number of bees. If the result of the prolongation of the life of the bee is that it is enabled to make an increased number of trips to the field, then those bees which possess the largest honey stomachs will store the greatest amount of honey. These points should all be taken into consideration when selecting bees to be used for breeding purposes.

Kansas.

(I am of the opinion that the weak point in this study is that there is no record of the amount of brood reared. A colony which had the opportunity to rear a large amount of brood would show more bees, at the end of the time, than one that did not rear as much, and would therefore pass for having longer lived bees.

On the other hand, the colony which reared less brood would spend less honey and would have opportunity to show a greater surplus, though its actual harvest might not be as great as that of the other colony.

It seems to me that the only way to show the better qualities of the bees of any hive would be to have all of them made queenless for as long a time as was needed for the test.

I have always considered that the length of life of bees is due to the less or more risk they run during the working season. A colony whose bees would be slow to work might have longer lived bees and harvest less honey, per head. If we watch our bees closely we will find that storms and winds kill a great many. Those that would come home readily in cloudy weather might show better in length of life and poorer in results.

This matter needs a great deal of study on all its different points of view. It is very much like the cost of wax in honey, and we might come to a conclusion that would be exactly the reverse of the truth if we ignored any point.

Taking all in all, the colonies that yield the best results, year after year, should be the ones to breed from. That is exactly in line with Dr. Miller's views.—Editor.)

FAIRS

By F. B. Paddock.

For several years beekeepers have been urged to place exhibits at fairs. A recent plea which has come to my attention gives rather detailed directions for a well-balanced exhibit. The caution is given that a great deal of selecting will be necessary to get sections of the proper quality. It is indicated that the exhibit should contain a large amount of good extracted honey in glass. Beeswax should form a conspicuous part of the exhibit. Honey plants make a valuable addition. Cooking, preserving and jellies form an interesting educational feature. These suggestions are really very good and ought to be a help to anyone contemplating an exhibit.

The value of prizes obtained is hardly compensation enough for the work involved. This must be admitted in the start. However, this same principal holds true with all competitive exhibits at fairs. A stockman was recently heard to remark that there was too much time required to put on the exhibits that would have any chance of competing with the others which would probably be at the fair. However, if everyone should take this attitude our fairs would be a complete failure.

The beekeepers have complained that there was no department for them or that the premiums offered were entirely too small. Any business organization, if efficiently conducted, will not provide for a thing unless there is a positive and definite demand for it which cannot be denied. Therefore, beekeepers cannot expect to build up a department with good premiums, unless the attempt is first seriously made and the fair officials are convinced of the outcome. In general the function of a county or local fair is to bring out material, the best of which can compete with other communities at a state fair. The best material from the state fair should go to regional fairs. This process is actually taking place with many branches of the fairs, but does not exist with honey.

In visiting local fairs during the last four years, certain features were self-evident. The honey displays were conspicuous by their absence for the most part. All of the honey displays were very poor in quality. One case was especially impressive. At a fair in Colorado, in a county which was noted for its extensive production of fine honey, there were four entries of extracted honey. The

fair grounds were searched for the honey exhibits and they were finally located on a shelf between the canned goods department and the sewing department in the women's building. No two exhibits were presented in the same style of containers and the premium list simply read that the entry should be composed of ten pounds of extracted honey. Inquiry was made for the honey exhibits at a district fair in Iowa this year. After finding the building a thorough search was made and a second attempt was necessary to reveal the honey exhibits, surrounded by other farm products, including wheat, potatoes and corn. At this fair there were three entries, all in different size and shape of containers and different amounts for each entry.

Criticism has been made in Iowa that the judging was done by people who are wholly incompetent. It often happens that extension workers have been called upon to judge exhibits quite foreign to their line of work. In behalf of these workers it must be said that they do not want to judge under such conditions and there is a growing tendency to familiarize themselves with the materials which they are most often called upon to judge. Under the conditions named above, the fair management is not justified in the expense of a special honey judge. It behooves the beekeepers then to insure the fair management that a large range of exhibits will be prepared and that a superintendent of the department is necessary, and also that a competent judge must be called in to pass on the exhibits.

At the Iowa State Fair the premium list was increased two years ago from \$500 to \$750 in cash premiums. In each entry there are five premiums. The lamentable thing is that the exhibitors are so few that the fair management has not found it necessary to set up a superintendent to take care of the department. This year, probably for the first time, material was shipped in and not accompanied by the exhibitors. As a result there was nobody present to take care of it and it was up to the judge to consider the material as an entry and act accordingly.

What is sorely needed at the present time is suggestions for a standard exhibit and specifications for the various entries at county fairs and at state fairs. It is amazing to see exhibits entered in blue glass fruit jars. The owner of such an entry has no idea how that honey is to be judged and what influence the color of the container will have upon the outcome of his entry. The Agricultural Extension Service of the Iowa State College, this year, for the first time, made suggestions for county fair exhibits. It is hoped that these suggestions can be revised to make them available to the beekeepers and to fair managements with more nearly standard departments. At the state fair this year it was very evident that the different entries were not correspondingly divided in the

premium lists, and this led to dissatisfaction on the part of the entrants through misinterpretation of the premium list.

After judging at state fairs, and after hearing the stories of other judges, it is very evident that the beekeeping industry needs to have a process of standardization for fair exhibits. It should be the function of colleges teaching beekeeping, and all state beekeepers' associations, to bring out score cards or tables of standards for all of the possible fair exhibits. Entries were made at the Iowa State Fair this year by those who had no idea of the points to be considered by the judge in placing their exhibits.

The Illinois State Beekeepers' Association, in their annual report for 1922, have made a step in the right direction by adopting certain score cards. It is hoped that other associations will take a similar step and that the directions suggested can help eliminate the present conditions and that we can have in the United States a reasonable standard for fair exhibits. This is true of all branches of livestock, horticultural products and forage crops. It has taken years to evolve these standards in the other lines, and it will take time to establish standards in the beekeeping industry. But the start must be made, and should be made as soon as possible.

HONEY CANDIES ON THE INCREASE

It is pleasing to note to what extent honey is being used as a base for candies compared to its use a few years ago.

The fact that a firm in Colorado is putting in special machinery for high speed production of honey chocolates shows that there is a demand for them on the part of the public. Similar candies are put out by a California candy firm.

Latham's sandwiches and candies are already well known to us, as well as the candies and honenut butter of D. C. Gilham, and the Trufood products of New York.

We have also already mentioned the honeyscotch of a Minneapolis firm.

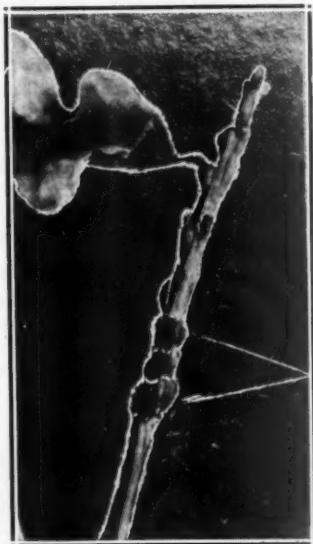
All of this helps. But we are inclined to believe that over exploiting of honey may detract a little. An instance is the purchase by a prominent Michigan beekeeper recently, while in Chicago, of a box of candies made of honey. The purchase price was 75 cents. There were exactly thirteen average-sized pieces in the box. At this rate honey candy comes high.

A Unique Publication

Prof. F. B. Paddock, State Apiarist and Secretary of the Iowa Beekeepers' Association, issues a quarterly sheet for the purpose of reaching Iowa beekeepers. Brief news notes and timely suggestions for Iowa bee-men fill up the space. Such a publication serves both the association and Prof. Paddock's official relation very well.

HONEYDEW PRODUCED BY AN INSECT GALL

By George D. Shafer.



Galls of *Dicholcaspis eldoradensis* on the California Valley Oak.

BULLETIN No. 217 of the Agricultural Experiment Station, Berkeley, Calif., on "Honey Plants of California," by M. C. Richter, lists *Quercus lobata* (also called Valley Oak or Roble) as a honey plant occasionally yielding a surplus. The statement is added that "with favorable climatic conditions considerable honeydew is gathered in the fall." Nothing is said as to the source of the honeydew on this oak.

On a recent vacation trip the writer spent a little time on the shores of the Russian river, and, one hot afternoon (August 18), stepped into the shade of a valley oak. Immediately the humming of busy bees attracted attention. Examination showed that hundreds of honeybees, yellowjackets, ants and some other insects were working along the younger twigs all over the tree. On the surface of most of the young twigs were many little black or brownish swellings or galls. (See the accompanying figure, which shows the position of these galls on the twig.) The tumid outer surface of

each little gall glistened with a honeydew-like excretion. This sticky excretion the insects were eagerly gathering. An astonishing number of honeybees were present. Their actions and the tone of their humming indicated that the job seemed "worth while" to them. On visiting eight or nine other trees of this species in the neighborhood, bees were found busy in every tree upon the numerous little galls. However, there was no opportunity to learn whether any surplus was actually being stored by the bees.

A few years ago Mr. A. Gambs, a beekeeper who was then located in the Sacramento Valley, described, to the writer, little swellings on the oaks in that valley from which he had observed the bees to gather a small surplus on occasional years. Mr. Gambs believed the swellings on the oaks he examined to be a fungus which produced the sweet excretion. His description came to mind as these little galls on oak near Ukiah, Calif., were examined, because they looked very much as if they might be a fungus growth—especially the smaller galls. Upon carefully cutting open a number of these galls, however, a tiny white larva was found to be closely and completely invested in a chamber at the center of each gall. They were, in fact, true insect galls, the honeydew excretion being exuded upon the outer surface of the galls themselves. Dr. Isabel McCracken of Stanford University, who has put considerable study on the gall-causing insects of California, identified this gall as caused by the insect *Dicholcaspis eldoradensis* (Beut.). Dr. McCracken has collected the same gall in the Santa Clara Valley here, and observed that it was visited by insects to some extent.

It would seem to the writer that this gall may be the source, in some seasons at least, and under the proper conditions, of the honeydew mentioned in the bulletin referred to above in connection with the valley oak, *Quercus lobata* (Nee).

Stanford University, Aug. 25, 1923.

NOTES ON QUEEN REARING

By I. McClanahan.

After reading the article written by E. F. Atwater in your May number, I wish to give you my system of queen-rearing, which I have never seen in print.

When I read about an apiarist dividing his hives to make increase and admitting that he is not breeding from his best queen, or another apiarist using swarming cells and not being satisfied because he thinks he is propagating the swarming impulse, I cannot help thinking how simple a matter it would be for these two types of apiculturists to breed

from their best queens. Carry a transferring needle in your pocket, and when you find a hive preparing to swarm and full of fine cells, kill all capped queen cells, and with your needle pick out the larvae in the uncapped queen cells; go to your breeder, get a frame of hatching eggs and transfer a larva into each uncapped cell. Have some six-penny nails in your pocket and run a nail through the comb just over each cell as you graft, so that, if the bees should make more cells later, you will be able to distinguish between the grafted and ungrafted cells.

If you tear the cells when you graft them, don't worry, and don't

think a cell is too far advanced to graft, if it is not yet capped. The older they are the larger they will be when completed.

We all know that if you take the queen away from a colony the bees will commence a lot of cells which do not always mature into good cells, but three or four days after taking the queen away, if you graft the cells with larvae just hatched, the colony will make some of the finest cells. Naturally, if no flow is on you will have to feed.

I used this system twenty years ago, when I was just a kid and owned and operated 600 colonies of bees for comb-honey production at Payette, Idaho; and I remember that each time that the bee inspector or anybody else happened to visit my yards they would remark about the fine queens. I used nothing but an old bicycle spoke as a needle, but since that time the bees have made me enough to buy a needle made for the purpose. This system is ideal when running for comb honey and using Dr. Miller's system of swarm control, when you can graft a larva almost as quickly as you can kill a cell and each larva that you graft has a nice warm bed of jelly to lie on and you can raise each queen in the hive in which you intend her to remain permanently.

I use the standard hive body, divided into three compartments, for making nuclei to raise queens to sell, and when I have cells ready to hatch I simply exchange one from the mating nucleus for one with a grafted cell or two on it. In this way the mating nuclei are always in good condition.

After trying all the different systems, I find this the best. I can walk into the most vicious apiary of black Algerian bees and in thirty days I can lick them; that is, I can give every hive a pure Italian queen. They will mate with black drones, but the next time I graft the yard they will be pure Italians. I might add that the first cross of black and Italians here gives excellent results, but the second cross are worthless.

The black Algerian bee is very restless and nervous and for that reason it is hard to introduce a queen of another race. I use what is called here the "cage anglaise," which is nothing more than a cage containing a frame of hatching brood. But I have made what I call an improvement. I cut a hole two inches square in one side of the cage, about the center, both ways. I cover this with a small piece of wood. I go to the hive to requeen, kill the queen and put in the cage with the queen to be introduced and close the hive. After two days I open the hive and simply remove the block of wood, leaving the two-inch hole open, and I close the hive. In a week or so, I usually find the queen on the third or fourth comb from the cage and in good condition.

Blida, Algeria.

THE HUBER LETTERS

Wasps and Bumblebees

(Continued from October)

Lausanne, Aug. 10, 1831.

Are you willing that we should talk another moment, my dear correspondent, upon the subject which I have broached in my previous letters? I do not pretend to solve it in its entirety; my knowledge is limited to the profound admiration of the ways of Providence, however severe they may appear to us, which always serve the purpose intended. Here, the aim is no other than the perpetuation of the species; the sacrifice of the individuals was its proper and inevitable consequence. The extermination of the males among bees is not the only example that Nature offers to us of the rigor of its laws. Without looking out of that family, see what happens to wasps, hornets, woolly bumblebees, etc. It is to their females alone that the conservation of the race is entrusted, when the race is considered necessary.

At the opening of cold weather, all perish in the nests of wasps and bumblebees, the females alone surviving the great rigors of winter. As that season does not furnish them food any longer, they are enabled to do without it; then they become torpid and wake up only when milder temperature puts within their reach the beings that have also been benumbed as they were and which serve for their food. These females, fecundated during the previous summer, have no other need than giving birth to the future race; but before their first bringing forth, they must prepare a proper spot to serve as a cradle. The female who is about to become a mother knows the duty which is imposed upon her and acquits herself worthily of it; we have seen the lodges which they know how to make for their young before their appearance and during their solitude.

Among the bumblebees, as among the wasps, each nest has in the fall several fecundated females. They do not gather together to spend the winter; they isolate themselves, on the contrary, and each must pass the winter in a different spot. The successive layings of the mother will soon surround her with a sufficient number of helpers, the care of building will no longer be her duty, but the species will be preserved. What will be the limit of its existence? We are as ignorant of it as of our own. The disciples of our Lord asked him for the date of his happy return to the earth. He replied that this was the secret of God himself, and that the important thing was to be always ready to receive Him, that is to say, to be well received by Him (Gospel St. Matthew, Chapter XXIV). Being seated on the Mount of Olives, his disciples addressed him particularly and said: "Tell us when those things will happen and what will be the sign of your coming and of the end of the centuries?"

Jesus replied: "Beware that none seduce you. As to that day and hour, no one knows it, not even the angels in the heavens, but my Father alone knows it."

Neither you nor I are unjust enough, my dear Elisa, or selfish enough to pass judgment upon the beings which now interest us. Honey, beeswax and silk are doubtless very precious gifts, but the bees and the silkworm which put these into our hands must not secure all our attention and our recognition. Allow me, therefore, to seek in the natural history of those poor wasps which are not accustomed to our homage, some proofs of the infinite kindness, which all nature proclaims, and, to estimate them at their true value, let us use the same balance (if we can do so) as the hand of the Creator.

The wasps, as you know, do not make any store-rooms for the needs of the future or for another season; this future, this other season do not exist for them. At the first cold weather of fall, the entire family must perish, the mother alone excepted. This female, which has become fertile before that date, what becomes of her in this occurrence? Will she remain in her palace, deserted by all and in which she would be exposed to the cold of winter and to the attacks of enemies, mice, gophers, etc. No, she is the trustee of the future race; those germs (in every way precious in the eyes of Providence, which makes no exceptions), preserved within her body and needing, at the last, only the mild warmth of their mother's body, are ready to take advantage like herself of a still milder temperature and to become eggs of which spring causes the farther development. I have several times discovered some of these females, which had nested in the straw mats designed to preserve my fig trees and other plants from the cold. Their torpidness was not very profound, holding them for a moment in my hand was sufficient to waken them, had I not placed them back in the spot where I had found them and where they had to wait until the spring be advanced enough to put within their reach the insects upon which they feed.

Do you not think, as I do, that these are quite sufficient proofs of the infinite kindness of which these beings are the object?

Does a patient see, in the cares which are given him by the physician, anything but kindness, no matter what remedies are necessary to bring him back to health?

When the season has no longer any danger of rigors, the females feel it, within their shelter, they leave it never to return; but where do they go? Will it be in the nest in which they lived the previous season? No, they go elsewhere to seek a suitable spot for a new establishment. It is there, as I have said, that the female, still solitary, constructs the niches in which her first egg is to be deposited, Is the dispersion of those females, in the fall, intended for the purpose of keeping their homes apart from each

other, at respectable distances? This would remind us of the care the bees take of scattering their swarms apart, when they are permitted to do so.

(To be Continued)

NOTES FROM GERMAN BEE MAGAZINES

By Dr. H. v. Buttler-Reepen.

Chemical Composition of Larval Food

Since long time the chemical researches of Dr. v. Planta concerning the "pap" with which the young larvae of queens, workers and drones are liberally supplied have been considered as reliable, but Prof. C. W. Aeppler (Michigan) has stated that the proportion of the constituents of the "royal jelly" is not the same as v. Planta has given, and Dr. Adrienne Kohler, Bern (Switzerland), has corrected the other statements of v. Planta regarding workers and drones.

Dr. Himmer, assistant of Prof. Zander at the University of Erlangen, gives a report about this matter in "Leipziger Bienen-Zeitung" and reproduces the results in tabulated form as follows:

Queen.			
Investi-gators.	Albu-men.	Fat.	Sugar
V. Planta	45.14	13.52	20.39
Aeppler	30.62	15.22	14.05
Worker.			
Investi-gators.	Albu-men.	Fat.	Sugar
V. Planta	53.38	8.38	18.09
Kohler		23.3	15.7

Drones.			
Investi-gators.	Albu-men.	Fat.	Sugar
V. Planta	55.91	11.9	9.57
Kohler		24.23	1.49

There are great differences between the former statements and the new ones f. i. referring to the "sugar," which is proportionately about the same for all three castes, and the "fat" proportion is practically equal for workers and drones, as the small differences are of no importance, being within the limits of little mistakes which cannot be avoided in so difficult researches of this kind.

The chief result of these new investigations is that the old idea of the chemical composition of the pap being the cause of the differentiation between queen and worker may not be kept any more. It is perhaps not the quality of the pap, but only the quantity which causes the effect, that from each worker-larva may arise a queen, under certain circumstances which are known to every beekeeper.

The Origin of the "Bee Milk."

There were up to now two opinions about the origin of bee milk, some (Cowan, Schonfeld, Arnhart, etc.) pretending its derival from the

Chyle-Stomach (digesting stomach) of the nurses, and the other party saying that it is a secretion of one of the glands in the head (Cheshire, Snodgrass, Anny D. Betts, etc.). Charles and C. P. Dadant in the newest edition of "Langstroth on the Hive and Honeybee" are on the safe side when saying: "We do not see how this chyle" (contents of the digesting stomach) "could be thickened and regurgitated by the stomach to be returned to the mouth." But there is still some uncertainty, and Snodgrass says: "The only conclusion, then, that we are really warranted in drawing, concerning the origin of the royal jelly or of any of the larval food paste, is that we do not know anything about it." But Metzer (1910) and Zander (1911) have shown that the chyle theory is not correct, and Anny D. Betts, in her "Practical Bee Anatomy," which appeared only some months ago and which can be recommended to all beekeepers, refers to these authors, saying: "The view of Schonfeld has been shown by Metzer and Zander to be incorrect and a mechanical impossibility."

The cause of this mechanical impossibility is a certain valve (proventricular valve) in the stomach, which has first been found by Schiemenz, and this author was the first one, too, who expressed already clearly and distinctly, in his classical work about the food paste (*Über das Herkommen des Futtersaftes, etc.*, Zeitsch f. wiss. Zoologie, 1883) that there is no possibility of regurgitating the contents of the digesting stomach, as the valve spoken of prevents this. To be quite correct, it would be better to say that Metzer and Zander only give a confirmation of the statement of Schiemenz. The producers of the pap are glands which have the openings in the mouth of the bee (lateral pharyngeal glands) and which are at most vestigial in the queen and quite absent in the drone, as neither has anything to do with preparing or producing the food paste. The new researches, about the chemical composition of larval food, give a further proof that this food has nothing to do with the contents of the stomach, and a further test is the following: Examining a young nurse bee, these glands are turgid (increase of size) and in the highest state of activity, while they are much shrunken in the old bees of a broodless stock.

The expression "bee milk" is therefore very significant.

Law Against the Mite Disease (Acarapis Woodi) in Switzerland.

Dr. Morgenthaler has reported already in this journal about some cases of tarsonemus (Acarapis) woodi met with in Switzerland. It seems that this disease has made further progress, and to the great amazement of many beekeepers Morgenthaler could find the mites in stocks which apparently seemed to be quite healthy and which do not show tokens of illness up to now. To

verify the presence of mites it is not always necessary to dissect bees of the colony which has to be examined; it seems quite sufficient to sift the remains (rubbish) which is always lying on the bottom of the hives. Very often the Acarapis woodi will be found in these remains by microscopic study.

There seems to be no doubt that the mite disease has reached Switzerland, through France, as the Schweiz Bienen-Zeitung reports, and it is to be hoped that France will take steps against this terrible plague, as Switzerland has done, by a law, which has been published in the month of May. A rigorous survey has been organized and each importation of bees to Switzerland is forbidden.

A Beekeeper Getting the Doctorship.

Ludwig Arnhart, from Vienna, whose name is already well known in the beekeeper world, published in the "Archiv fur Bienenkunde" his "doctor dissertation" about the "Claws of Bees." He describes their action and their use from a physiological, anatomical and biological point of view. He comes to the conclusion that the evolution of this clasp-apparatus shows that the honeybee and the stingless bees (*Meliphona*) are much nearer related to each other than one of these to *Bombus* (Bumblebee) and that the honeybee stands on a higher point of evolution than *Melipona*, thus giving a confirmation to the reporters' publications about this matter. I have drawn the attention (in my book, "Leben und Wesen der Bienen") to the peculiar shape of drone claws as possibly being fit to serve as a klamerorgan (clasp organ) during the copulation. It would have been of interest to have heard Dr. Arnhart's opinion about this, but he did not touch this point. The special observations of Cheshire about the feet of bees, with the automatic use of the pulvilli (with illustration) have apparently been overlooked.

THE LIFE OF A WORKER BEE

How often we have been told that a worker bee is limited to six weeks. Has the climate of China anything to do with an extra spell of service given to our little pets here? They continue for six months at least. (I will let you know later on the exact length of their stay with us, when the last one disappears.) In November we gave a Carniolan queen a frame of sealed Italian brood, and today, May 8, there are still a good number of those same bees, healthy and strong, and working well. In April the colony gave off a swarm, half of the Italian bees came out with the swarm and half remained at the old home. These bees commenced work in December on loquats and continued until January 15. They then rested for two weeks and started again on rape and beans. Through the whole of February and March they were going pell mell in and out of the hive to the fields. The

last two months, April and May, they have been at work on gentian and other wild flowers. How are we to account for this? For instance, if worker bees are given only six weeks to live, how comes it that after six months of hard service our Italian bees are still going strong? It may surprise you to hear it, but I am inclined to believe that sometimes our Chinese worker bees put in a whole year before they leave us. We have no definite proof at present, but are watching them closely. Apropos of the Italian bees mentioned above, please do not say we have some peculiar breed out here. The bees in question came to us from San Francisco.

Edward J. Blandford.
China.

New Hampshire Meeting

The sixth annual meeting of the New Hampshire Beekeepers' Association was held on the campus of the University of New Hampshire in connection with the Farmers' Week program. The following officers were elected: President, A. L. Littlefield, Salem Depot, N. H.; Vice-President, James E. Fowler, Newfields, N. H.; Secretary-Treasurer, J. R. Hepler, Durham, N. H. Executive Committee: T. B. Bragg, Manchester, N. H.; C. A. Randlett, Laconia, N. H., and W. J. Sleeper, Concord, N. H.

The program consisted of a talk on "Getting Bees from the South" by Mr. L. D. Bragg, of Epping, N. H.; greetings from the Maine beekeepers by Mr. Mason, of Mechanics Falls, Me., and a talk on "Keeping Bees in the Old Country" by Professor James of Durham. The chief address of the morning was made by Mr. George H. Rea, of Reynoldsburg, Pa., who spoke on "How to Make the Most of Our Bees." Mr. Rea also gave a demonstration in swarm prevention in the afternoon, which was one of the features of Farmers' Week.

In the parade the Beekeepers' Association won third prize with a gigantic bee made out of a Ford run-about.

A Selling Idea

Here is an inexpensive, easy to make, and withal novel sign you can use in connection with a window display of honey. Maybe you have a player piano yourself—if not, ask a friend for a discarded music roll of the kind that has no words on it. Unroll a portion of this and on the white paper letter these words:

MUSIC FOR THE CHILDREN'S EARS

"Here's some honey I brought home tonight." Only — for a pound.

Attach a string to each end of the wooden spool and suspend it back of the display of honey. The novelty of it will attract some attention. You can change the wording to "Sounds Sweet to the Children" after the first week, and later use "Home Sweet Home," "Harmony in the Family" and other phrases if you desire.

BEEKEEPING IN LATVIA

By M. Smeils.

Latvia occupies a territory of 65 thousand square kilometers and has a population of two million.

Of all economic branches in Latvia, agriculture is most general. Among the farming branches bee-keeping occupies a particular place of honor. The climatic and pastoral conditions are specially good for bee-keeping. Therefore it is carried on in Latvia with good profit.

Of honey plants in Latvia I can here name the following: Lime-trees, maples, acacias, white clover, Swedish clover, buckwheat, heather, etc.

In the whole of Latvia there are up to 20 thousand apiaries, with 65 thousand hives of bees altogether. Apiaries with 60 to 150 hives are rare, but apiaries with 10 to 60 are very frequent. In the well kept apiaries the honey crop per hive is 120 to 240 pounds comb honey. A bad honey crop can be considered as 20, 40, 60 pounds of honey per hive.

The Latvian beekeepers keep the bees mostly in Dadant-Blatt hives, which are made with double walls. In these hives the bees winter very well on their summer stands.

Beekeeping in Latvia is carried on by farmers, gardeners, workmen, teachers, officials and others. Recently women have begun with particular success to keep bees. Bee-keeping has here many followers, and is carried on not only in the country, but also in the towns. Thus, in the Latvian capital, Riga, there are apiaries with up to 60 hives of bees.

Now since the Latvian agricultural reforms, there are in Latvia farms mostly with 40 to 60 hectares of land (100 to 150 acres). Those new farmers keep bees with great interest, as this branch of agriculture is very profitable.

Beekeeping in Latvia is furthered by beekeeping societies. These bee-keeping societies now number 110, each with an average of about 100 members. Nevertheless, the principal encouragement of beekeeping in Latvia is in the hands of the Latvian Central Society of Beekeeping. It has a great staff of employees: specialists, instructors, overseers and others. Besides this the central society arranges courses, lectures, consultations, etc., on beekeeping.

Last year (1922) it arranged in Latvia over a hundred courses in beekeeping, 120 lectures, and 25 honey shows. Moreover, the Central Society of Beekeeping publishes a monthly journal, "Latvias Biscopis," also a beekeeper's year-book, and some other books and pamphlets on beekeeping.

Now the Central Society of Bee-keeping is occupied with renewing apiaries destroyed by the war, and hope that in two to three years Latvia will be able to produce honey also for export.

The increase of beekeeping require also specialists and instructors; therefore the society arranged last



Mr. Paul Grunup, head of the Latvian Society of Beekeepers.

autumn in "Vec-Becri," not far from Riga, a school of beekeeping. In this school the pupils consist of girls and boys of any age. The pupils in this school are taught practical and theoretical beekeeping, fruit-culture, vegetable-culture, honey-plants, and flower-culture.

The most prominent specialist in beekeeping in Latvia is Mr. Paul Grunup. He is the head of the Latvian Central Society of Beekeeping, he edits the journal and books on beekeeping, he arranges most important courses in beekeeping, and he is also organizer and head of the school of beekeeping.

Riga-Latvia.

"WHAT CONSTITUTES A COLONY OF BEES?"

In the August issue J. F. Diemer asks for a definition of the phrase "a colony of bees," and can fairly claim to have caught the editor napping. Of course, Mr. Diemer must have been out for hair-splitting from the start, but his question is a fair one and there must be many beekeepers who would find it hard to give a reply to which exception could not be taken.

The best way to answer such a question from a man of Mr. Diemer's stamp would be to ask another, as "What is the size of a piece of coal?" Every beekeeper talks about **strong** colonies and **weak** colonies, **diseased**, **healthy**, **broodless**, **starving**, **queenless**, **cell-building** colonies, etc., so very obviously, the word "colony" as applied to bees can have no very definite meaning. Yet few words occur oftener in beekeeping talk and literature, where it is simply used to denote almost any kind of community of bees irrespective of whether that community is small or large, normal or otherwise. But there are cases in which the word "colony" would never be used. A quantity of bees **without combs** is never called a colony, and

further we may take it that bees, even when they have combs, stores, a queen, brood in all stages, and are in all respects quite normal, do not constitute a colony, or are at least not generally called by that name,—if the total **number** of bees is small, the community then being called a nucleus. We can therefore say that a colony of bees consists of a "large" number of bees established on combs of sufficient number and size to accommodate the bees, and fixed and disposed in such a way as to be suitable for their use. Farther than that we cannot go in a general definition of the word. We might indeed try to specify the minimum quantity of bees necessary, but different beekeepers will have different ideas as to just when a community of bees ceases to be a "nucleus" and becomes a "colony." Probably the editor's estimate of three pounds of bees is as reasonable as any, and if in the definition just given we read "at least three pounds," instead of "a large number," we have a definition which covers everything which could possibly be called a colony and excludes everything else.

Of course, someone will say, "If I shake three pounds of bees onto a few empty combs in a box, would you call that a colony?" According to the definition it would be a colony; and if a beekeeper pointed to a hive in his yard in which there were three pounds of bees on empty combs, and said, "That colony was robbed out because it was queenless," you would probably accept his explanation without demurring at his use of the word "colony."

The bees and combs in Mr. Diemer's attic surely make a colony, on my definition, but if he wants to ship them under that name he will have to remove the bees and combs and fix the latter up somehow so as to be portable (to suit his own purposes) and so as to be suitable for use by the bees (to comply with the definition). Whether he uses a hive or a molasses barrel, he still has a "colony."

Delta S.

Paisley, Scotland.

Donations Advertise Honey

If the American Legion were holding some kind of a carnival and a beekeeper donated a small amount of honey as prizes it would attract more attention than the more costly prizes offered by the grocer and the hardware man. Why? Because the public expects the merchants on the principal streets to be asked to help. As a matter of fact, few committees think of calling upon the beekeeper at such times because he is not in the business section. Inasmuch as these prizes, which are offered for different kinds of competitions, are generally exhibited in some window and mentioned in the local paper, there is ample publicity. American Legion events are cited only as an example; there are many times when honey can be used to advantage as prizes.

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

SWARM PREVENTION

1. I have 12 colonies of bees, each colony in two hive bodies, and am now feeding them 50 pounds sugar syrup per colony and will pack same in winter cases about the middle of October; I produce comb honey in sections. When unpacked about the first of May I contemplate reducing the colonies to one hive body each and putting on the comb honey supers in place of the upper story. What do you think of the effectiveness of introducing young queens from the South in May as a swarm prevention measure? My experience in the past with permitting even a prime swarm to issue has not been satisfactory, and I should like to work out some fairly effective way of swarm prevention.

2. If there is not a practicable way of swarm prevention available to me, what do you think of the "put-up" plan of swarm control, as suggested by Dr. Miller?

VIRGINIA.

Answers.—1. I am not sufficiently acquainted with your locality to be able to tell whether the first of May is the proper time to reduce the brood chamber to a single story. I am inclined to think it is too soon. This should not be done until the honey crop is well begun, otherwise we may reduce the breeding of the queen at a time when the workers produced might be useful for the crop.

Introducing young queens after removing the old ones, in May, is not so much to my taste as introducing them in the fall, for this reason: If the young queen proves objectionable to the bees, they may rear queen cells and swarm. But if she had been introduced in the fall, at a time when there is no danger at all of swarming, she would be at her best at the time of the honey crop.

2. The put-up plan of Dr. Miller is good; the main objection I have to it is that it requires so much watching and so much work. But to entirely prevent swarming in raising comb honey with Langstroth hives, there is a great deal of work.

BEES IN GREENHOUSE

1. Would you please tell me if it would be profitable to winter a weak colony of bees in a vegetable growing greenhouse (it containing only lettuce), the temperature being 45 to 50 degrees, and feed them sugar syrup?

2. Would the bees become restless and fly against the glass and wear themselves out trying to get outside?

3. When should I feed them?

4. Would the queen go ahead laying eggs as if it was summer? If they would do all right, would they swarm? Or, if the weakness is on account of a poor queen, would it do to replace with a different queen? Or would it do to kill the old one and let them rear another queen?

ILLINOIS.

Answers.—1. Wintering bees in a greenhouse is all right if you have the hive fixed so the bees may reach the outside to take a flight from time to time, on warm days; that is, to have the entrance outward.

2. If you keep bees in a greenhouse so that they must fly on the inside you will lose many. It is a fairly good thing for the growing of cucumbers or other plants that need the bees to fertilize the blossoms, but it weakens the colonies, because

so many of their bees wear themselves out trying to fly outside.

3. When it comes to feeding them, give them all the food they need as quickly as possible, so as not to cause them any extra excitement. Whenever you give feed to bees, you cause them to want to fly, and many of them get lost. So give them what food they need for the winter and quit feeding.

4. It would not be very good for them to breed all through the winter, neither would it be advisable to have them rear a queen until spring, when the young queens could find drones to mate. If you put them in a greenhouse, leave them as quiet as possible till winter is over.

ESCAPES, SUPERS, ETC.

1. It is annoying to find bees walking back and forward through a bee escape when trying to take off honey. How can a bee escape be tested before using?

2. For the benefit of my friends and relatives I would like to destroy the hundred or so bees that remain with even a perfect escape before bringing the honey home. Has anyone invented a good sulphur burner that will not go out or flare up and melt the combs above it?

3. My road is rather rough and three miles long. Does the advice of 9 frames to the super apply? I have used 10 and would fear badly bruised combs.

4. What damage to combs or to succeeding crop if my extracted combs were not cleaned in the fall by bees?

5. I understand comb is sometimes put in packages of glass, or tin, then the package filled with extracted honey. What would you do if such a package granulated? This has not happened to me yet.

6. Do mice ever enter a populous colony in July? What would tear up the combs? It occurred in only one colony.

7. I have never attempted to raise queens before clover flow. I believe earlier queens might prevent some of my swarming troubles. How early could I raise my own queens?

OTTAWA, CANADA.

Answers.—1. In our experience, not one escape out of fifty has proved imperfect. As the only way to test them is to put them on, my advice would be to simply put them on when wanted and discard such as prove imperfect. It may be that the ones you have, have not been properly made.

2. If you propose to kill with sulphur the few remaining bees in the bee escape, after removing the super, the best way we know of is to burn the sulphur in a metal dish under the pile of supers, using a couple of empty stories just next to it to keep the flame from heating the upper stories. But we have never been annoyed by the few bees remaining in a super, as they are always young bees and perfectly harmless. To make a good brimstone burner, dip pieces of strong gunny or khaki, from a castoff garment into melted brimstone and drop them into cold water. The pieces should be made into strips a couple of inches wide. To melt brimstone, use an iron kettle of small dimension. Druggists usually keep the brimstone in proper shape for use.

3. If you are to travel with cases of full combs, better fasten them down in some

way. But in this part of the world, the bees put in so much propolis that there is very little moving. A sort of rack may be made on which to rest the super so as to keep the combs apart at the bottom. We prefer 9 combs to 10 for extracting supers.

4. If combs are not cleaned by the bees in the fall, we usually find them sour in the spring. The honey that remains gathers moisture and ferments. When the bees get the control of those combs, in spring, what little honey there is may get mixed with new honey and cause it to ferment. There is also the annoyance of attracting robbers when putting them on. We have made it a constant practice to have them cleaned thoroughly by the bees in fall.

5. We never fill packages in that way, for the very reason that you mention. But many of our beekeepers bow to the public prejudice against extracted granulated honey and appear to be ashamed of it. They will have to change their methods and teach the public the facts about honey granulation, sooner or later. In the old days, comb honey was put in jars and the jars filled with a mixture of glucose and honey. That did a great deal of harm to the bee industry.

6. Mice will enter a weak hive. We do not know of anything else that would tear the combs.

7. It does not pay to rear queens early in the North, because the colonies are not strong enough. Better rear them in summer, or buy your queens from a reliable breeder in the South. But if you insist on rearing your own queens early, you can do so as soon as you are sure of having drones to fertilize them.

BUCKWHEAT FOR WINTER

We have a heavy flow of buckwheat and are going to have, in all probability, a heavy flow of goldenrod. Buckwheat will sell at 5c net to the producer, and sugar is about 12c per pound. Would it be safe to winter my bees on buckwheat honey, or would you be afraid to chance it? I have 110 colonies.

ONTARIO.

Answer.—My personal experience with buckwheat as winter stores is quite limited. But I have never heard of its being bad winter food unless it was harvested so late as to remain unsealed. In this case, any honey would be bad winter food, for it absorbs moisture. Therefore I believe that you would have no more trouble with it than with goldenrod honey. Aster honey has been named as unhealthy for the bees, but when it was well sealed we had no trouble with it. The only honey which we consider as entirely objectionable is honeydew, for this is hardly honey, and it contains a large amount of foreign matter which loads the bees' intestines.

The worst honey for bees is that which contains a large amount of pollen grains floating in it. The purer honey is, the better it succeeds in wintering bees.

COLOR OF ITALIANS

I would like to know if there are any differences except color marking in the "Golden" and "Three-banded" Italians. I live in southern Vermont and am wondering which kind would be best for me to keep.

VERMONT.

Answer.—Both kinds are pure. But the "Goldens" have been bred especially for color, sometimes without regard to other qualities. That is why I recommend the "three banded," for I know that they have been bred straight without much regard to brightest colors. However, there will always be a big demand for "Goldens." People like anything pretty and will pay more

for it, even if not quite so good. If I were in your place I would buy prolific "three-banded" bees, asking for the best honey producers.

MOVING BEES

As I have an opportunity to buy six colonies of bees about 25 or 30 miles away, would like to know how to get them home and when is the best time to move them. How soon could I move bees that had been transferred from box hives to modern hives?

PENNSYLVANIA.

Answer.—Bees may be moved at any time, but when the weather is warm and the hive heavy with honey it is a little more dangerous, and more ventilation is required. In warm weather we move bees very early in the day. With a motor truck you can move them 30 miles in about two hours. If you arrange them the evening before, placing a screen over the combs, there will be no trouble. The later in the season you move them, the less air they will need. But do not try to move them by just using a screen over the entrance, because the field workers crowd into that entrance and clog it. Use more or less screen at the top.

There is no difference in moving colonies that have been transferred and colonies that have been hived into movable frame hives. To move box hives, we simply turn them bottom up and place a coarse gunny sack over the bottom of the box.

SUPER HONEY

Would it be a violation of the law to sell honey in the comb that has been made partly by feeding the bees sugar syrup?

NORTH CAROLINA.

Answer.—Certainly, sugar syrup is not honey, and you cannot sell honey, honestly, unless it is honey from the flowers. Sugar syrup is a little changed by being in the stomach of the bees for a little while, but it is sugar syrup just the same.

FEEDING

If 15 pounds of honey are taken out of a brood chamber late in September, how many pounds of sugar must be fed to the colony to replace the honey? I mean just the sugar without counting the water to be added to it.

Answer.—If the bees did not use any of it to breed or to build comb, it would take only about 10 pounds of sugar to replace the 15 pounds of honey. But as the bees always produce wax and breed when fed, at any season of the year when they do not harvest honey, it would take probably 15 to 18 pounds of sugar and perhaps more to replace the honey. Those things have been tried and have not been found profitable, except when the honey was of bad quality and had to be removed anyhow.

DARK HONEY—LATE DRONES

1. I have some section honey that is black; can you tell me what makes it so? I think I have heard of it before. I have kept bees for a number of years, but never had anything like it. Is it fit for table use? If not, what use can I make of it?

2. If the bees have put in much of it, will they winter all right?

3. My bees have not done well this season and I see there are lots of drones flying; why do they let them live so long? Is it a sign they are not all right?

MAINE.

Answers.—1. You do not say what blossom yielded the honey which you mention as black. Buckwheat honey is rather dark, of a brown color. Honeydew is almost black. If it is honeydew, it is not very good for table use. Tobacconists often buy it for use in chewing tobacco; for the users of chewing tobacco can stand almost any kind of

stuff in their delightful saliva-making product.

2. If it is honeydew, as we suspect, you had best extract it all from the broodnest, or remove the combs containing it and replace them with combs of good honey, for honeydew makes them sick, when long confined to the hive.

3. Drones at this late season indicate either that the hives containing them are queenless or that they are exceedingly rich in stores. Usually, however, in the latter case, only a few drones remain for a while in fall. I venture to say that you may have two or three queenless hives and that the drones have congregated in them, as they do when driven out of their home. Queenless hives should be united with queenright ones.

ROBBING—FOULBROOD

I. I see lots of my bees carrying others out. They don't seem to be fighting. When the bees separate they both go to the field or sometimes some come back to the hive.

2. If you have foulbrood, what effect would boiling the gums in linseed oil have? Would it disinfect to any extent? What would be the best?

MISSOURI.

Answers.—1. The bees that are fighting are most probably a robber and a bee of the hive. The first flies away, the other returns to the hive. You will see that only in times of honey scarcity, and it is always a sign that they do not find any honey in the fields.

2. Boiling hives and frames in linseed oil is certainly a good way to disinfect hives. We prefer, however, to use a tinner's gasoline torch, which singes the lumber very quickly. Fire is the best disinfectant for foulbrood.

HONEY VINEGAR

I would like to make some honey vinegar for home use. Could you give me any information how to make it, and where to get the champagne yeast I read about in some number of your Journal?

PENNSYLVANIA.

Answer.—The method for making honey vinegar was given at different times, but especially on page 28 of January, 1922, A. B. J., and on page 164 of April of the same magazine the same year, 1922. It takes from 1½ to 2 pounds of honey per gallon to make good vinegar. Some people make it with a pound to the gallon, but we consider such vinegar too weak.

As it is out of the question to get champagne yeast in the average country home, we advise the use of some ripe grapes to start fermentation. A pound of grapes to the gallon or even less is sufficient. Crush the grapes and mix the juice with your honey water, after having boiled the latter in order to kill any other germs than those of alcoholic fermentation. Do not put the grapes in the liquid until the latter is at less than 120 degrees. Keep the liquid, as much as possible between 70 and 90 degrees. If you make a small quantity you may be able to keep it warm enough to ferment by keeping it behind the kitchen stove.

When the fermentation is well along and the liquid no longer sweet, add some vinegar or some vinegar mother and give it plenty of air. The more air it gets, the quicker the vinegar is produced.

HATCHING OF EGGS

1. Is there any variation in the hatching of worker eggs under normal conditions?

2. Have the bees any control over the

hatching of worker, queen or drone eggs under any contingent?

3. Have you any good method of making honey vinegar?

NEW YORK.

Answers.—1. Nelson's *Embryology of the Honey Bee* gives the time as 72 to 75 hours for the hatching of the egg. Others say "about 3 days." This is the time usually figured, although it is probable that the time might be delayed a few hours by a low temperature of the brood nest.

2. I do not know whether I understand your second question. The bees control the hatching of the eggs by keeping them warm. Otherwise they would not hatch. If you mean something else, please explain. Bees keep eggs warm, as hens do.

3. We are giving an answer on the making of honey vinegar in the same number in which this will appear.

GRANULATION

We extract our honey, here in Manitoba, when about half of the combs are sealed. We leave the extracted honey in the honey room at the temperature of 77 to 86 degrees F., in large vats of 1500 to 3000 pounds, for eight or ten days before putting it up in glass jars or tin pails. It nearly always begins to granulate some two weeks after extracting, especially at the end of August, so that after a month it is as hard as soap. But whether we keep it in the honey room, where it freezes in winter, or whether we keep it in the house at a uniform temperature, or in the cellar, it always softens in the following spring, so that in July it is as liquid as at the time of extracting. But this happens slowly, the top of the vessel containing it being first covered with a very soft scum, and the melting continuing until it reaches anywhere from the middle of the recipient to the bottom. The honey does not turn sour, neither does it lose its aroma or taste.

This peculiarity has been noticed by us every year, even on honey two and three years old, the change taking place every year. What do you think is the cause of it?

Answer.—In this country of hot summers and cold winters, honey granulates very hard and usually softens considerably in summer, when kept at the temperatures of the houses. It is quite probable that the extremes of heat and cold which you experience in Manitoba are the main causes of this. However, there might be an explanation in the fact that you extract before the honey is all sealed. Some of it may not be ripe enough. Yet, if it does not ferment in the least, it would indicate that it is ripe. On the other hand, the presence of a scum or foam at the top of the jars appears to indicate some fermentation, which may not be effective enough to spoil the flavor of the honey.

I would suggest that you leave some honey on the hives until it is thoroughly ripened, before extracting. It is not necessary that this honey should be all sealed, if it is left long enough with the bees, after the crop ends, to make sure that they have ripened it. Try it on a few hundred pounds and note the result.

We must bear in mind that the climate of North America, from Florida to British America, is subject to greater changes than that of Europe. Our temperatures are very much greater in their range than those of Europe, excepting some countries of Russia or the Scandinavian latitudes. Therefore we may expect different results. In France, for instance, a grocer may keep butter on his counter all day long in July. Here, the butter would become oil during the summer days. So our honey will probably never remain as firm in summer as it does in Europe.

ALL AROUND THE APIARY**Importance of Locality.**

Although much has been written about locality in the bee magazines in the days gone by, little attention has been given to the study of influence of locality on the behavior of plants. Until recently it is doubtful whether botanists recognized the fact that a plant may yield nectar freely in one locality and not at all in another. A few facts are coming to light which add much to the knowledge of the subject, but far more remains to be learned. Just what factors are favorable to the secretion of a maximum quantity of nectar for each particular plant it is highly desirable to know. With some plants the soil seems to have the greatest influence, while with others it is the climatic environment. Some plants do best on sandy soils, while others require clay or limestone soils. Some yield freely in hot and dry weather, while others yield only when there is plenty of humidity in the air.

Until very recently all our attention has been centered on methods of management, while the equally important factor of locality has received scant attention. Men like John H. Lovell, who are searching out the facts concerning plant behavior, are rendering an untold service to the beekeeping industry. We may have the best possible strain of bees and follow the best system of management and get no honey when the flowers fail to yield nectar. When

the facts are known it will be possible for the beekeeper to select a locality where conditions are most favorable and thus greatly increase the chances for success.

About Prices.

At Sunset Ranch, my Nebraska farm we keep bees. At our town of Chambers I was surprised to find five-pound pails of white honey on sale at the grocery stores at 85 cents. After deducting the cost of the pail and label, the retail price of the honey was only about 15 cents per pound. At the same time beekeepers in other Nebraska localities are getting \$1.25 to \$1.35 for five-pound pails. My friend M. S. Potter, who is in charge of the farm, is not a price cutter and wants to sell honey at what it is worth. With the neighbors selling through the grocery stores at 85 cents for five-pound pails, it makes it necessary for us to find a market at a distance or hold back our honey until the others have cleaned up their stocks. In view of the general shortage of the crop in the large producing centers, there is no excuse for retailing at such a figure, except that the beekeeper is not informed as to the value of his product.

After leaving the farm, I passed a fine country place on my way home, where there was a sign—

Honey for Sale.
Sections 17½ Cents
Strained 15 Cents Per Pound.

From the looks of the buildings on that farm, I feel sure that the owner would not have offered his corn or his hogs for sale below the market price, but he was selling honey to passing motorists far below what good Nebraska honey should bring this year. It is discouraging to find section honey retailed by the roadside at 17½ cents when it is retailing at 40 cents in other places, and extracted honey at 15 cents when it is bringing 25 cents but a few miles farther on.

Getting Good Combs.

Because of the failure of the honey crop in so many localities, there has been much complaint of the bees gnawing foundation this year. It is a mistake to give foundation when there is no nectar coming in. Under such conditions the bees are likely to damage the sheets, and in extreme cases they will be full of holes. It is especially bad along the wires. Our flow at the farm was good this year as usual, since sweet clover is our main dependence. Potter secured some very fine combs built on the new vertically wired foundation. With the split bottom-bar frames the combs were fastened to all four sides of the frame and were about as near perfect as one could hope to attain. Combs drawn above the brood chamber during a good flow are a delight.

Frank C. Pellett.

YES, 1922 PRICES

on lumber still determine the prices you pay for Muth's Bee-keepers' Supplies. But—

it begins to look like there must be an increase soon, as lumber has advanced decidedly while we maintain low prices

WE RENDER WAX FROM YOUR OLD COMBS.

Association
Secretaries:
Write for
our proposi-
tion on
supplies.

THE FRED W. MUTH CO.
"THE BUSY BEE MEN"

CINCINNATI, O.

HONEY SIGNS

Bring the Customer to Your Door

Use our inexpensive honey signs, printed in attractive red color on heavy cardboard, size 9½x11½ or 5¼x14 with the words:—

HONEY FOR SALE

These cards, by the roadside, will help sell your honey. State size wanted when ordering

15c each, \$1.25 per dozen, postpaid

AMERICAN BEE JOURNAL, Hamilton, Illinois

TENNESSEE-BRED QUEENS

**Fifty-one Years' Experience in Queen-Rearing
Breed Three-Band Italians Only**

	Nov. 1 to June 1			June 1 to July 1			July 1 to Nov. 1		
	1	6	12	1	6	12	1	6	12
Untested	\$2 00	\$8 50	\$15 00	\$1 50	\$7 50	\$13 50	\$1 25	\$6 50	\$11 50
Select Untested	2 25	9 50	18 00	1 75	9 00	16 00	1 50	7 50	13 50
Tested	3 00	16 50	30 00	2 50	12 00	22 00	2 00	10 50	18 50
Select Tested	3 50	19 50	35 00	3 00	16 50	30 00	2 75	15 00	27 00

Select tested, for breeding, \$7.50.

The very best queen, tested for breeding, \$15.

Capacity of yard, 6,000. I sell no bees by the pound or nuclei, except with high-priced tested and breeding queens.

Queens for export will be carefully packed in long-distance cages, but safe delivery is not guaranteed.

JOHN M. DAVIS, Spring Hill, Tenn.

The Engravings appearing in this publication are made by the

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HAULING BEES TO CELLAR

By N. E. France.

Since my four sons are married I am forced to plan my work to "go it alone."

In taking my bees in cellar in the fall it was difficult to get a plan whereby I could handle these bees alone and still make an easy job of it. However, by using the rear wheel of a Ford for my wheelbarrow, I wheeled seventy-five colonies of bees from the cellar alone this spring in a couple of hours, and not a bee knew what a nice ride it was having.

The extensions for the wheel are 2x4 pieces, with the front end raised enough to take the weight of the load on the wheel the same as with the small iron wheel removed.

I placed a couple of bricks for the wheel to run over to see if the bees cared. There was only a slight buzz, but no bees came out to investigate.

The high dash in front of the bodies keeps the hive bodies from slipping ahead while wheeling.

My total loss during the winter of 1923 was one colony in the seventy-five put into winter quarters.

QUEENS AND CAGES

The article in September Journal by Jay Smith has so much in it to which I can say Amen! I want to endorse what he says about the mailing cage in particular, and second his endorsement of the push-in cage. However, after all has been said, the push-in cage is not easy to operate—there is no real scientific way to get the lady into it. May I recommend a combination of the push-in and mailing cages, whereby the lady walks out of the mailing cage into the dooryard of the push-in whenever she chooses, and can then amuse herself as Nature may suggest? The push-in cage is made with one end open to fit the mailing cage, and the candy is cleared out of the mailing cage so the queen has an exit ready when she wants to take a walk. (Of course you will set the push-in on the comb first, and don't forget to include some unsealed honey under the cage.)

And there you are; go fishing for three or four days and don't think about bees. Remove the empty cages when you get back, or any old time; you will find eggs enough to let you know she is on the job.

Oh, by the way, wasn't the Miller queen cage the original, and prior to the Doolittle broomstick cage? The broomstick cage is much easier to make, but the Miller has some advantage on account of its flat shape.

About "laying workers": The cure by exchange of combs, comb for comb, with other colonies would seem to be a sure thing and about as simple as anything that has been recommended; and a colony so built up of numerous strange bees should accept a queen without knowing it. Fortunately for us, there are not so many laying workers, by heck.

New Jersey.

D. Queen.

**TO THE HON. COMMITTEE IN
CHARGE OF DR. C. C. MIL-
LER MEMORIAL LIBRARY
DEDICATION**

State University, Madison, Wis.

Gentlemen and Friends:

In the very heart of Europe, in Czechoslovakia, lives a nation that was trodden down for over three centuries by the ruling power of the Hapsburg dynasty, which was suppressing its cultural life.

It was not until towards the end of the world war that its thralldom was shaken off and an independent republic proclaimed on October 28, 1918, and the nation was delivered from that hated supremacy.

In deep gratitude do I realize the fact that this achievement was attained through the aid of the United States, whose beautiful star-spangled banner is being greeted in our land most cordially at every opportunity.

Our nation is living in a country culturally developed; as for instance, we beekeepers are publishing not less than eight apicultural periodicals, which is more than the Japanese or some other nations have. Beekeeping is extensively cultivated in our republic.

It was, therefore, with a sense of profound appreciation that we took knowledge of your kind invitation to attend the Memorial Library Dedication of Dr. Charles C. Miller, whose name as a renowned bee master is most favorably known with us.

I beg you today, on the occasion of the observance of the gleaming memory of this great apicultural Corypheus, to accept, for all the Czechoslovakian beekeeping enthusiasts, the humble assurances of our trying to be present at your celebration at least in spirit, since we are unable to participate in person.

Though thousands of leagues away from you, we beg leave to assure you, according to the Bohemian adage: "The heart's bonds cannot be severed by the far ocean's waves," that our hearts are tied to yours by our common affection for the bees.

Long live among us the blissful memory of Dr. Miller!

Long live the beekeeping friends of the United States!

Long live the free Republic of the United States, let honor be paid to her flag!

Rev. Ivan F. Kitzberger,
Editor of the monthly publication,
Veelarske rozhledy (Revue apicoile).
Translated from the Bohemian by
Msgr. Alois J. Klein, Brainard Neb.

Where Will We Stop?

As a forerunner to Health Week in Chicago, H. N. Bundensen, health commissioner, said: "One hundred years ago 11 pounds of sugar per capita was used in this country, while today 70 pounds per capita are used. Sugar alone causes a large death rate."

"DISHING OUT THE SWEETS"

How the dear public loves a free souvenir, and that is just the point of attack this beeman took up to appeal to his future customers. First of all, he searched about to secure honey plates for 7c, but he dared not add that 7c to the selling price of his sections of honey. At last he found a house that would sell in big lots for 3½c per plate. He added that to the price of the cake of honey and then began his advertising campaign.

The daily newspapers announced

**WITH TOAST
OH BOY!**

Did you ever try it? Honey on toast? If you haven't, you've got a big treat in store. One young woman said, "I had become tired of eating plain toast, nor did it appeal to the children any more. But, once I added honey, my whole family kept me busy serving. Honey is certainly delicious!"

Try it tomorrow morning! All quantities of honey from one half-pound glass at cents up.

CHARLES JENSON

AUBURN PARK

CHICAGO, ILL.

We have had a series of 20 model advertisements of honey prepared by an advertising specialist. This series will provide the beekeeper with suitable copy for his newspaper advertising for all occasions. Simply change the name and address on the ad to your own, and it is ready.

The above is a sample of this series. The entire series of 20 post-paid to any address for 50 cents.

We offer a full line of selling helps—labels, signs, folders, etc.

Everything in printing for the bee-keeper.

**AMERICAN BEE JOURNAL,
Hamilton, Illinois.**

THANKS FOR PAST BUSINESS

Now booking orders for May delivery, 1924.

Same price, same package, introduced-laying-enroute queens, and better service and quality.

**JES DALTON,
Bordenonville, La.**

his offer of a free plate (one to a family) with each section of honey purchased, which was sold at the leading grocers and bake shops. When you took advantage of his offer you were obliged to sign your name and address, so that when his supply of both dishes and honey ran out, he had the majority of names of the heads of families. These names he used for mail order advertising his products and also sold a copy of them to another merchant for mail order purposes. The free dish brought them and the honey pleased them, as the repeat orders testified.

Mrs. Luella B. Lyon.

**Package Bees
"A Dollar a Pound"**

One 2-lb. package of bees \$2.00
Queen additional 1.00

NUCLEI

2-frame standard Langstroth, with queen	3.00
3-frame Standard Langstroth, with queen	3.50
2-frame Jumbo Langstroth, with queen	3.50
3-frame Jumbo Langstroth	4.00

Loveitt Honey Co.

602 N. 9th Ave.,
PHOENIX, ARIZONA

**QUEENS OF
Moore's Strain**

OF ITALIANS PRODUCE WORKERS

That fill the supers quick
With honey nice and thick.

They have won a world-wide reputation
for honey-gathering, hardiness,
gentleness, etc.

Untested queens, \$1; 6, \$5; 12, \$9

Select untested, \$1.25; 6, \$6; 12, \$11

Select test, \$2; Extra select test, \$3

I am now filling orders by return mail.

Safe arrival and satisfaction guaranteed. Circular free.

J. P. MOORE, QUEEN BREEDER.

Route 1, Morgan, Kentucky.

PORTER



**BEE
ESCAPE
SAVES
HONEY
TIME
MONEY**

For Sale by all dealers
If no dealer, write factory

R. & E. C. PORTER, MFRS.
Lewistown, Ill., U. S. A.

(Please mention Am. Bee Journal when writing)

Here Is Your Chance

From factory to you, our excellent made material at attractive prices. Send in a list of your needs of BEE SUPPLIES for the coming season and get quotations on it.

Langstroth portico 8 and 10-frame hives and supers, also 8-frame 4x5 comb-honey supers at cost prices, while they last.

CHARLES MONDENG

146 Newton Ave. N. and 159 Cedar Lake Road
MINNEAPOLIS, MINN.

BEEKEEPERS WE MANUFACTURE DOVETAILED HIVES, HOFFMAN FRAMES, SECTIONS AND SHIPPING CASES

Our hives are made of best grade White Pine, cut accurate and smooth to standard measure. Sections are made of Basswood, polished on both sides. There are no better made.

We carry a complete line of everything in the apiary. Our shipping facilities are as good as can be found anywhere. We want your business. We guarantee prompt and satisfactory service. Price list free.

MARSHFIELD MANUFACTURING COMPANY, Marshfield, Wis.



Honey Labels

THAT HAVE BROKEN AWAY FROM
THAT "ALL LOOK ALIKE" BUNCH

MADE TO SUIT YOUR IDEAS

Lowest Prices.

Catalogue Free.

Liberty Publishing Co., STATION D
BOX 4001 Cleveland, O.

WE MANUFACTURE FOUNDATION

— Our Specialty is —

Working your wax into foundation, for cash or wax in payment. Write us for list of supplies and get our prices on the best Hives, Sections, Frames, etc made in Wisconsin.

GUS DITTMER COMPANY
AUGUSTA, WISCONSIN

Trees on the Roadside

On page 443 an editorial on this subject calls to mind that one of the first activities of the American Honey Producers' League was to appoint a committee to see if it would not be possible to have nectar producing trees planted along the National highways. This committee was to get in touch with the highway commissioners of the various states. I do not know if anything has been accomplished in this direction or not, but it is an important work and should be pushed by the beekeepers in every state.

The editor points out that in many European countries fruit trees are planted along each side of the highways. It is a beautiful sight to view these rows of cherry, pear and apple trees bent down with ripening fruit. We may never—or at least for a long time to come—develop a system of caretakers for these long rows of orchard trees, and the free and easy habit of our people in taking advantage of their opportunity to pluck any fruit in exposed positions may deter us from planting fruit trees along our roadways. Some trees will certainly be planted, however, for shade; and we beekeepers should see to it that these are honey-producing varieties.

In the southeast, tulip-poplar cannot be surpassed, both for shade beauty and honey. Every highway in the section where it grows should be lined on both sides with a stately row of them. In great areas of the middle west no other tree than the basswood should be used for this purpose. In the south central districts it is economically a waste to plant cottonwood and sycamore when *celtis occidentalis* (western hackberry) is of as ready and rapid a growth and provides early nectar for spring brood rearing. In fact, in every section can be found a quick growing, beautifully shaped tree for highway ornamentation that will also provide nectar for the bees.

By all means let every beekeeper in every state appoint himself a committee of one to interview his highway authorities and urge the planting of nectar-producing trees along the roadways. E. G. LeStourgeon.

Bees at Ohio Fair.

Under the direction of the Ohio Beekeepers Association, an extensive exhibit was held at the State Fair in Columbus, August 27 to September 1. A total of \$546 was given by the fair board for prizes, for which there were fifty-three entries. Mr. C. O. Yost, of the State Department of Conservation of Indiana, acted as judge of the honey and bee exhibits.

A foulbrood conference was called for August 30, at which Mr. Yost and Mr. E. R. Root were the principal speakers. Plans were made for better organization in the state by getting more local organizations affiliated with the state association, in order to secure more concerted action in control of bee diseases.

ROBBING WEAK COLONY

By Chas. Hewitt.

For the past two seasons I have had trouble from robbing, especially affecting the late swarms. I tried all the remedies that I could find suggested in the Journal and in my bee books, but without marked success. This month I had two rather small swarms about the end of the main honey flow. Both were successfully hived, but one proved to be without a queen, so I combined the two swarms. Even then they did not seem strong enough to protect themselves from robbing. So I tried a scheme which I have not seen mentioned in print. I took a ventilated bee escape and placed it in an inverted position between the bottom board and the brood chamber. This permitted the bees to enter, but they could not get out again. I also put a super on top with some sections of comb honey. I then left them alone for three days. After releasing them there was some little excitement about the hive, but they soon settled down and they are now acting like self-respecting bees should act, and so far there has been no further attempt at robbing. The colony seems to be strengthened in numbers. Older beekeepers may have tried this dodge, but I have never seen it mentioned in print.

New Hampshire.

(Your method of treating a small swarm which is threatened with robbing is quite ingenious. We do not know whether it has been tried before, but do not remember it.

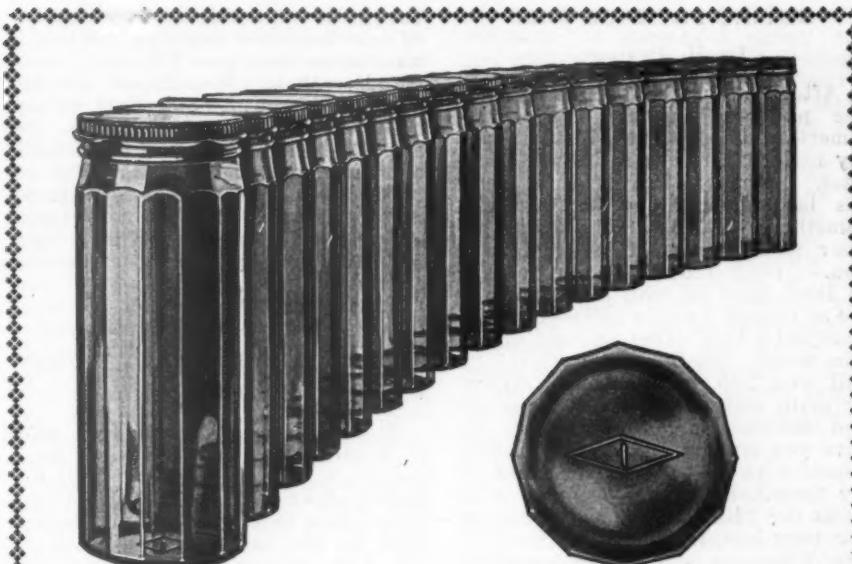
It is quite probable that the swarm was strengthened by some robber bees which entered the hive and which concluded to become citizens of that colony when they found themselves unable to leave it.

It is quite possible, however, that such a method would not succeed in a hotter atmosphere than that of New Hampshire. Our method would be, either to return the swarm to the parent colony, or to strengthen it immediately upon hiving it, with young bees from another colony. It is also well not to give them a hive full of comb, but only as much room as they can well cover.—C. P. D.)

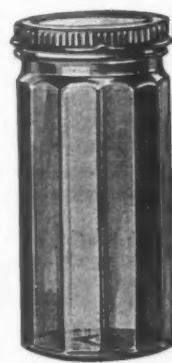
Sullivan County, Indiana.

The beekeepers of Sullivan County, Indiana, and Crawford County, Illinois, met at the apiary of Charles B. Saunders, of Merom, Indiana, on September 3. The Sullivan County Association includes a bee book among the benefits conferred upon its members for both the first and second year. The object of the association is to promote the interests of the beekeeping industry. Since well-informed beekeepers are not likely to cut prices or to spread disease, the association does well to see that new members are provided with good books on beekeeping.

At the dinner hour a swarm issued. The bees were captured, the old queen killed and the bees permitted to return to the hive. The swarm furnished an interesting diversion.



The National Honey Package



PACK your honey in GLASS. People like to see what they are buying.

"Diamond I" Honey Jars in 1 lb. and 1/2 lb. sizes, are furnished complete with tight sealing caps and are packed in 2 dozen Corrugated Reshipping Cases.

Most Beekeepers Supply Houses can fill your orders promptly. In case you are unable to secure "Diamond I" Honey Jars from your local distributor, write us direct.

Illinois Glass Company
GENERAL OFFICE, ALTON, ILLINOIS
Branches in all Principal Cities

**CARNIOLAN
and
ITALIAN** **QUEENS** **\$1.00**

J. E. WING,
San Jose, Calif. 155 Schiele Ave.

Need Some Queens?

We can ship at once. Same price as quoted in our September ad.

Remember, Forehand's Three Bands are THRIFTY.

W. J. FOREHAND & SONS,
Fort Deposit, Ala.

?

MACK wonders what the season of 1924 is going to bring, the way orders are rolling in for queens. Customers who bought queens sparingly the past season are now favoring us with their orders for lots of 50 to 100.

They are pleasing others and we know they will please you.

Estimate your 1924 requirements and get our quotations. Catalog, describing methods of rearing, strain etc., sent free to anyone upon receipt of their name and address.

HERMAN McCONNELL,
Robinson, Ill.

BUYING PACKAGE BEES

By H. Pearson.

After reading the Latham trials of the package business, page, 463, American Bee Journal, I might give my little experience in buying packages. I wrote to five different dealers last spring; one answer was something of this nature: "Pay me your money and take what I send you." Four out of the five refused to send them by mail and answered me as though I was a yellow dog and deserved a kick. One man out of the five wrote something like this: "I will send 2-lb. package and a queen by mail, and guarantee safe arrival and satisfaction. I would like to have you try my bees." This letter appealed to me. I sent for three to try them. I received them by mail about the 24th of May; as our spring was very late, the dandelion was out fine. When the bees came I put them in their new homes that evening. I got a real surprise. They were real swarms. The next day business opened; they went to work in earnest and stayed right on the job; they worked alongside of old colonies that I wintered over. We have taken our honey all off; the packages made more pounds of surplus by 5 pounds than the old colonies. Our average for the old colonies was only 56 pounds of comb honey. Our 2-pound package averaged 61 pounds, and two of the packages swarmed. Mr. Scott, the dealer of whom I bought the packages, was much interested in the welfare of those packages; he wrote and said if any of the queens showed mistaking, which may happen, he would replace them; he surely wants a customer to get real value. If I should want to stock up in bees, I wouldn't hunt for old colonies; I would make out an order for what bees in packages I wanted and I would have them come by mail. I would feel sure that what nectar came our way would be gathered. Mr. Latham rubbed the buyer pretty hard. I wish that the dealer that I

bought of would write a description of our business dealings. When I want some more bees I know where I will buy them. I could not ask for any better treatment or bees in any better condition. So we buyers are not all kickers. Mr. Latham has his blue days, the same as the rest of us, but the sun shines a little sometimes. So cheer up and don't rub us so hard. We have a feeling, too. This is hoping for a bright future for the bee business.

Wisconsin.

PROPOSED NORTHWEST HONEY SHOW

At the Minnesota State Fair held at Minneapolis the first week in September, it was proposed by Willis L. Crites, of Amenia, N. Dak., that there should be a northwest bee and honey show for the benefit of the beekeepers of the region along the northern boundary from Wisconsin to the Rocky Mountains. Beekeepers from other states who happened to be in attendance at the fair were enthusiastic over the possibilities of such a show, and it was proposed that Minneapolis would be the logical place and that it should be held in connection with the Minnesota State Fair. The Minnesota fair supports the beekeeping industry with liberal premiums and as a result has some very good exhibits. With a larger premium list open to exhibitors of surrounding states, the show should be of more than passing interest to beekeepers generally.

A group of visiting beekeepers met at dinner one evening and discussed the possibilities of such a show. Mr. Crites promised a good display from North Dakota, Prof. Roy Gilcreast of the South Dakota College of Agriculture agreed to see what could be done in his state, and Newman I. Lyle of Sheldon represented Iowa. The associate editor of this Journal was present from Illinois. Wisconsin had no representative.

The Mid-west Horticultural Show

includes the products of the apiary and is open to beekeepers everywhere. It seems that if another show is to be held within a few months of the same time that beekeepers will find much greater interest in the preparation of exhibits since the same display can be exhibited at both shows.

It is to be hoped that the plans discussed at Minneapolis will develop into a really creditable regional show and that beekeepers will manifest their interest by preparing exhibits for display both at Minneapolis and at the mid-west show, which will be held at some point in Iowa in 1924.

Those interested in the development of a bee and honey show on a large scale should write to Prof. Francis Jager, University Farm, Minnesota, and offer suggestions for making the show a real event in the beekeeping year—F. C. P.

A New Use for Honey

If women get interested in honey for beauty it is easier to lead them on to the subject of honey as a regular food. A Williamsfield, Ill., woman recently won a cash award for suggesting this "Beauty Hint" to a Chicago paper: "To whiten the hands, mix equal parts of honey and lemon juice. Scrub hands and arms with a good soap, rinse, dry well and rub in the mixture at bedtime. Let it remain until morning.

Too Much Sugar

Dr. Julie Stevens, dietician to Sarah Bernhardt, the famous actress who died recently, is attracting attention by her statement that if we could avoid wrong foods we might live in perfect health to 80 years. Her breakfast is one slice of whole wheat bread with butter and a little honey. "The most disastrous things for the human body are sugar and starch. If we could only live without these, it would be a better world." She adds that a pound of sugar is enough for a family for a month.

You can have cash for your wax and old combs or cappings at the market price, or we allow a little more in exchange for supplies

Write for our terms and prices

"Falcon" Supplies, Queens, Foundation

Booklet, "Simplified Beekeeping for Beginners" free

Write for catalog

W. T. FALCONER MFG. COMPANY, Falconer, (NEAR JAMESTOWN) N. Y., U. S. A.

"Where the **BEST** Beehives come from"

Market News on Honey

Market news reports on honey and beeswax are issued about the first and fifteenth of each month by the Bureau of Agricultural Economics to help beekeepers, both the small producer with only a few hives and the large co-operative organizations with a crop of several hundred cars, to dispose of their crops at prevailing market values.

The reports are sent out from Washington, D. C., mails to all territory east of the Mississippi River, and from Kansas City, Mo., which serves the remainder of the country. Statements of prices and market conditions prevailing in important honey-producing sections with other news items of interest to beekeepers generally are found on the first page of these reports. The prices are largely confined to honey which enters commercial channels in 5-gallon cans if extracted, or in 24-section cases if comb honey.

The second part of the report gives news from large consuming centers. Leading receivers and dealers in Boston, New York, Philadelphia, Chicago, Kansas City, St. Louis, Minneapolis and St. Paul are visited to obtain the quotations at which bottlers, confectioners, bakers and dealers can buy extracted honey and the price at which comb honey is sold to dealers and retail grocers. Prices are obtained for all flavors and grades

which are on the market in any quantity. In a large market like New York City 20 responsible receivers or more may be visited before the reporter feels that he can write a market report that will be adequate as well as accurate.

Although the primary purpose of these reports is to picture the honey situation, beeswax prices are secured for leading consuming centers, and occasionally the prices paid beekeepers for wax in different parts of the country are also shown. Once a month the imports and exports of honey and beeswax are published in the report, and twice a year the imports and exports for the preceding 12 months are tabulated and published in great detail. As a supplement to the market news reports, crops and production reports are issued four times a year. These supplements relate to honey yields, prospects, and the condition of bees and plants.

These reports can be obtained regularly by anyone interested, upon application to the Bureau of Agricultural Economics, Washington, D. C.

Johnson County Meeting.

At the annual meeting, August 28, in the Johnson County, Missouri, court house, Osborne Greer was elected secretary. President Miss Laura Fuhr and Vice-President Mr. Pentecost, of Leeton, were re-elect-

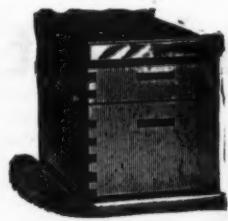
ed. A number of new members were secured. A successful honey sale last winter was reported in competition with western honeys, and a round-table discussion of the shortage of nectar all through this section of Missouri followed.

Prof. A. C. Burrill, curator of the State Museum, made a report on the results of the winter campaign for bee legislation and called on the local constituency to support the new state aparist, Mr. Linn, of Chillicothe, to make better progress with Missouri bees. In the afternoon he delivered a second address on the methods of exhibiting honey and the mistakes made in the recent exhibit at the State Fair and the objects of the new State Museum.

Parker Promoted.

R. L. Parker has been selected to fill the position in charge of experimental work in beekeeping under Prof. Paddock at the Iowa College of Agriculture. In our September issue mention was made of the resignation of Prof. Wallace Park to take charge of the beekeeping work at the Illinois University. Mr. Parker, who succeeds Mr. Park, has been connected with the beekeeping work at the Iowa institution for some years and is fully familiar with the projects already under way. We are glad to know that the research work will not be interrupted.

MR. BEEKEEPER—



We have a large plant especially equipped to manufacture the supplies that you use. We guarantee all materials and workmanship. We ship anywhere. We allow early order discounts and make prompt shipments. *Write for free illustrated catalog today*

We pay highest cash and trade prices for beeswax

LEAHY MFG. CO., 90 Sixth Street, Higginsville, Missouri
 J. W. ROUSE, Mexico, Missouri Texas Distributors, A. M. HUNT & SONS, Goldthwaite, Texas

HONEY WANTED

We are ready at any time of the year to take in small or large lots of extracted honey.
 Send us a sample and advise quantity you have and the price wanted.

HOFFMAN & HAUCK, Woodhaven, N. Y.

European Foulbrood.

I have had an unusual amount of European foulbrood this summer. It went through almost my entire home yard of sixty colonies. I read everything that I could find pertaining to the treatment of this disease and then tried some ideas of my own. I will explain to you what I did and would very much appreciate your opinion on its value.

I observed the orthodox idea of a gap in brood rearing this way: I went to a colony which was diseased, looked up the queen and put her in a cage, moved this colony away, after taking out two frames containing a little honey but no brood, placed these in a new hive with division board next to them, with a queen excluder between the bottom and the hive body, released the queen in this hive and placed it on the old stand. Most of the field bees returned to this colony, making a good, strong two-frame nucleus. After a couple of days I moved the old colony back near the old stand, let them stay in this condition until the old colony had raised a queen. Then I doubled the two together and took away the old queen. In this way I lose no time and have from two to four frames of healthy brood which I obtained from the old queen. This plan has worked successfully with me in a number of cases, and I have had no failures.

I do not know that this is any-

thing new, but I have not seen anything like it in print before.

H. C. Cook.

(The process above indicated looks good to us if it is carried out during warm weather, when there is no danger of chilling the brood when the hive is first removed. Perhaps we might suggest also that, in the new hive, on the old stand, there will be no young bees to care for the brood, and it is the young bees which produce the pap. But if Mr. Cook has tried it, we know him for a very practical beekeeper, and it must work. It is worth trying.

We don't know it all yet, do we? Every day some one brings a new idea, and some of them are bound to be good.—Editor.)

Dangers of Galvanized Iron

Food or drink should not be allowed to stand for even a short time in a galvanized iron vessel. Such a utensil is not desirable for use in making preserves or jellies or holding cider or other fruit juices. This is according to a statement by the Bureau of Chemistry. It appears that the zinc which is used in galvanizing will be dissolved and will give the food an unpleasant taste and may cause sudden and intense illness. Experiments made by the Bureau of Chemistry with limeade, orangeade milk, carbonated water, tap water, and distilled water held over night in galvanized iron buckets proved that

zinc contamination occurred in each case.

(Possibly this is the case also with honey. The matter should be investigated. Meanwhile, let us use tin, bright tin, and not dull lead tin.—Editor.)

Bees at Wisconsin Fair

We believe that Wisconsin State Fair offers the beekeepers of the Badger State a larger and more extensive list than any other state. At the fair, from August 27 to September 1, there were 13 exhibitors, and the show of honey, both extracted and in comb was undoubtedly the largest and most complete ever shown in the United States; there was more than 15,000 pounds of honey on the shelves in the bee and honey building; in the forenoon and afternoon of each day a demonstration in the handling of bees was given in front of the building, by Judge J. M. Barr, of West Allis. If you want to see a real bee and honey show, make arrangements to attend the Wisconsin State Fair. The Badger State beekeepers do not do things by halves. The amount of premiums offered at the last fair, \$1,517, will likely be increased for 1924; it will not be any less.

W. A. Johnson.

The Jumbo—the Cheapest and Best Big Hive

Cheapest—

Jumbo Frames cost only $\frac{1}{2}$ c more than the Standard Hoffman Frame.

Jumbo Bodies but 15c more than the Standard 10-frame Body.

And a set of 5 K. D. Jumbo Hives with M. C. complete but \$1.25 more than 5 Standard M. C. 10-frame hives.

Jumbo meets every requirement for the producer wishing equipment larger than Standard.

Jumbos fit regular 10-frame equipment, are therefore used with greatest efficiency and economy in well organized apiaries.

Plenty of brood and storage space.

WEIGH THESE FACTS CAREFULLY AND USE JUMBOS FOR BEST RESULTS

Best—

THE A. I. ROOT CO., COUNCIL BLUFFS, IOWA

Crop and Market Report

Compiled by M. G. Dadant

For our November report we asked the following questions of our correspondents: 1. How is the final crop compared to last year? 2. How are honey prices compared to last year. 3. At what prices are you disposing of your honey, comb, extracted, jobbing and retail? 4. How are bees going into winter as to stores and strength? 5. What is the condition of honey plants?

THE FINAL CROP

Results do not differ very much from report in the October American Bee Journal. The fall crop has been a little better than had been anticipated, but most of the sections of the United States are short on the crop this year. The exceptional corrections are: Montana, Minnesota, Michigan, New York and New England.

CONDITION OF HONEY PLANTS

There has been abundant rain throughout practically all of the northern and southeastern sections of the country, and as a result honey plants are in very good condition. Texas reports the condition of honey plants as extremely good and prospects very good for the coming spring.

HONEY PRICES

Compared to last year jobbing prices on honey are considerably in advance of what they were. Comb honey is bringing from 75c to \$1.00 per case more than a year ago and extracted honey in the neighborhood of 20 per cent more. In other words, instead of selling slowly at 8c per pound, extracted honey in carload lots is now selling readily at 9c per pound in the Inter-mountain territory.

CONDITION OF BEES

Bees in most sections are going into winter quarters in the very best shape, although they will be short of stores in some sections. This is especially noticeable in California, where the crop has been short and many bee-keepers have taken off such crops as have been harvested earlier in the season, with the result that bees are now running short of stores and there will probably be heavy mortality unless much feeding is done.

SUMMARY

The thing which has impressed the writer the most in all reports coming in is the great variance in prices asked for honey. One beekeeper reporting from a certain section may be getting a very nice price for his comb honey and another only a few miles away may have his price where it is at variance from \$1 to \$2 per case from that of the other beekeeper.

The same is true of beekeepers in other sections selling their extracted honey in less than carload lots. Some are asking, for instance in the Mississippi Valley, 8c to 9c per pound for white extracted clover honey, whereas others are getting, without difficulty, 10c to 12c per pound for the very same honey, put up in exactly the same way.

As long as this condition exists we cannot expect anything else than a fluctuating market for honey and a distrust on the part of the jobber and consumer from the fact that these prices vary so greatly.

The mere fact that the widely varying prices are quoted makes it seem to the consumer that either one or the other thing has happened. Either one of the products is not first grade and pure, or else the other party is trying to rob the consumer by asking the higher price.

Of course neither is the case, it being simply a question of acquaintance with the market. The parties who are asking the low prices for honey would be better off if they sold their honey outright at jobbing prices and turned their attention to other endeavors during the balance of the year.

Most certainly there is a field for better education as to jobbing, wholesale and retail prices. How can we expect beekeepers from different sections of the United States to be together on prices of honey when they are not even together when located within ten miles of each other?

Another thing which has helped "ball up" the honey prices is the fact that many producers do not know that if they are going to handle honey in any quantity whatever and expect this to go through the regular channels of trade they must ask a retail, wholesale and jobbing price according to the person to whom they sell their honey. The beekeeper should get the retail price when sold direct to the consumer, he should get a wholesale price when sold to the retail stores, and a jobbing price when sold to the jobbers. There are a large number of beekeepers who do not understand this and who sell at exactly the same price, whether to the consumer or to the jobber.

We are attempting in this number to give an idea of what average prices should be on extracted, comb and bulk comb honey in different sized lots, and both jobbing and retail.

Kindly note that wholesale prices should be quoted to the retail grocers at 20 per cent below the regular retail prices as listed in the slip below.

We would appreciate criticism of the prices suggested, which are a summary of the prices given us by different reporters who are selling honey themselves.

We would appreciate in our next request for reports a more careful report as to the exact prices which are being asked for honey, both jobbing, in carload and less than carloads and also in retail lots.

CLASSIFIED DEPARTMENT

Advertisements in this department will be inserted for 5 cents per word, with no discounts. No classified advertisements accepted for less than 75 cents. Count each initial or number as one word.

Copy for this department must reach us not later than the 15th of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

As a measure of protection to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

BEES AND QUEENS

NEW HONEY IN November—Atwater.

MERRILL'S QUEENS—\$1.00 each.
R. E. Merrill, Muncy, Pa.

SEE our display advertisement on page 569.
Loveitt Honey Co.

HARDY ITALIAN QUEENS, \$1 each.
W. G. Lauver, Middletown, Pa.

BEES AND QUEENS at reduced prices. Cypress hives for sale. Write for terms.
Otto Dietel, Elza, Ga.

PURE Italian and Carniolan queens, the best of either race, \$1 each.
J. E. Wing, 155 Schiele Ave., San Jose, Calif.

CARNIOLAN-ITALIAN CROSS—Finest utility queens yet. While they last, \$1 each.
Geo. W. Coltrin & Son, Mathis, Texas.

QUEENS for the balance of the season of 1923. Write and get our prices.

O. P. Hendrix & Son, West Point, Miss.

SELECT UNTESTED three-banded leather colored Italian queens by return mail at \$2. Orders booked 15 days ahead, \$1.50. Send for prices on large orders. These bees hold Indiana record for comb-honey average per colony in a run of ten years.
Charles Kennard, Knightstown, Ind.

REDUCTIONS in price on golden queens July 1st: selected queens, one, 90¢; half dozen, \$5; dozen, \$9. Pure mating, safe arrival in U. S. A. and Canada. Health certificate furnished.
Tillery Bros., Rt. 5, Greenville, Ala.

"SHE-SUITS-ME" queens the rest of the season, \$1 each.
Allen Latham, Norwichtown, Conn.

BIG, BRIGHT ITALIAN QUEENS, 75¢ each, by return mail.
P. B. Skinner, Greenville, Ala.

BEES BY THE POUND; also Queens—Booking orders now. Free circular gives prices, etc. See larger ad elsewhere. Ault Bee Co. (Successors to Nueces County Aparies), Calallen, Texas. E. B. Ault, Prop.

SEE my display ad., page 569.
Jes Dalton, Bordelonville, La.

GOLDEN ITALIAN QUEENS—Producing bees solid yellow to tip from record honey gathering breeders. Package bees and nuclei. Circular 1924 ready.
Dr. White Bee Company, Sandia, Tex.

FOR SALE—White honey in 60-lb. cans, two in case, at 11c by ton lots. Light amber honey 10c. Sample 20c.
Julius Gentz, Wabeno, Wis.

LATE QUEENS—I can mail queens any month of the year. Tested queens only after November 1st at \$1.00 each for the months of November, December, January and February. Let me have your order; I have the queens now ready.
D. W. Howell, Shellman, Ga.

BOOKING ORDERS for 1924; 2-lb package 3-band Italian bees with select queen, \$4.25. Guarantee satisfaction; no disease.
J. Allen, Catherine, Ala.

FRIEND BEEKEEPER—We are offering for 1924 the same high-grade Italian queens we have furnished in the past, with an absolute guarantee for satisfaction. These queens are large, bright, gentle and prolific, easy to handle. Prices as follows: 1 to 30, 75¢; 30 to 100, 70¢; discount on large contracts. Tested queens, \$1.50; 3-frame nuclei with young queen, \$5.00; package bees, \$2.00 per pound. Place your order now and be sure. We take great interest in our work, which insures good service, although we are not infallible; therefore we stand ready to make any and all mistakes good upon request. Yours for queen service.

Walker & Shaner, Scotts Station, Ala.

PACKAGE BEES, nuclei and queens. Pure bright three-band Italian, April and May delivery. Absolutely no disease. Get my prices and circular before ordering. Guarantee safe arrival.

J. L. Morgan, Apalachicola, Fla.

TRY my 3-frame nucleus Caucasian or Italian race, reared from the best mothers, which occupy 93 standard frames. Queens, tested, \$1.50; untested, \$1. Only Italians by return mail; no disease.

Peter Schaffhauser, Havelock, N. C.

HONEY AND BEESWAX

SEE our display advertisement on page 569.
Loveitt Honey Co.

FOR SALE—White and amber extracted honey. Write for prices. State quantity wanted. Dadant & Sons, Hamilton, Illinois.

FOR SALE—Our own crop white clover and amber fall honey in barrels and cans; also white alfalfa in cans. State quantity wanted and we will quote prices. Samples on request. Dadant & Sons, Hamilton, Ill.

FOR SALE—White honey in 60-lb. cans; also West Indian in 50-gal. barrels. Samples and prices on request.
A. I. Root Co., 23 Leonard St., New York City, N. Y.

BEESWAX WANTED—We need large quantities of beeswax and are paying good prices now. Ship to us at Hamilton, Ill., or Keokuk, Iowa, or drop us a card and we will quote f. o. b. here or your own station, as you may desire.
Dadant & Sons, Hamilton, Ill.

FANCY CLOVER HONEY in new 60-lb. cans 2 to case; new crop. Sample 20c.
D. R. Townsend, Northstar, Mich.

1923 CROP clover honey in 60-lb. cans, also 5 and 10-lb. pails. Prices upon request. Sample 10c.

Sioux Honey Association, Box M. 26, Sioux City, Iowa.

HONEY FOR SALE—In 60-lb. tins; water white orange, 15c; white clover, 18c; for immediate shipment from New York.
Hoffman & Hauck, Woodhaven, N. Y.

CHOICE extra fancy white clover honey in new 60-lb. cans, 120 lbs. net, \$14.40. Sample 20c.

Edward A. Winkler, Joliet, Ill., Rt. 1.

FOR SALE—Very fine quality of raspberry-milkweed honey in new 60-lb. cans.
P. W. Sowinski, Bellaire, Mich.

FOR SALE—White clover comb honey and white clover and basswood extracted honey. Sample 15c. Prices on request.
F. W. Summerfield, Waterville, Ohio.

HONEY FOR SALE—In 60-lb. cans. Dandelion and clover, clover and basswood. State quantity wanted. Quality unexcelled.
Edw. Hassinger, Jr., Greenville, Wis.

FOR SALE—Choice white clover honey in new 60-lb. cans; case of 120 lbs. \$14.40. Sample 20c.

Alfred Stutt, Rt. 5, Creston, Iowa.

CLOVER HONEY in 5, 10 and 60-lb. cans. Write for prices.

Henry Price, Elizabeth, Ill.

FOR SALE—Comb honey at lower prices. Write H. G. Quirin, Bellevue, Ohio.

CHOICE EXTRACTED HONEY in new cans, 60 lbs. net, two in case. One case \$13; three or more 10c per lb.
H. F. Smith, Hooper, Colo.

NEW CROP clover and buckwheat now ready. Send for sample.
John N. DeMuth & Son, Pembridge, N. Y.

FOR SALE—Choice extracted honey, white clover, basswood and sweet clover; very light and fine; 60-pound can, \$9.00, 2 for \$16.80; 5-case lots, 12c per pound; 5-pound pails, 6 for \$5.00, 50 for \$40.00. Sample 15c.
W. A. Jenkins, No. 20 Bluff St., Hamburg, Iowa.

FOR SALE—New white extracted clover honey in 60-lb. cans, 12 1/2c a pound; 12 5-lb. pails, \$10; 6 10-lb. pails, \$6. Sample by mail 15c.
J. M. Gingerich, Kalona, Ia.

FOR SALE—Choice clover extracted honey, 5, 10 and 60-lb. containers. Write for quotations. State quantity desired. Sample 15c.
M. Larson, Box 144, Gardner, Ill.

FOR SALE—10,000 lbs. Michigan clover honey in 60-lb. cans and 5-lb. pails. Sample free.
Frank Rasmussen, Greenville, Mich.

FOR SALE—Comb honey at lower prices. Write H. G. Quirin, Bellevue, Ohio.

FOR SALE—Extra fine quality light amber extracted honey in new 60-lb. cans, 10c per pound; 10 cases or more, 9 1/2c. This honey is almost all white clover, with a small tint of dandelion.
Martin Carmoe, Ruthven, Iowa.

FOR SALE—Michigan's best white clover extracted honey in 60-lb. cans or pails. Sample, 20c.
W. S. Wiggins, Muir, Mich.

SUPPLIES

NEW HONEY IN November—Atwater.

SPECIAL PRICES—We are offering at specially low prices some very high grade material in shipping cases, frames, hives and miscellaneous which represent items we no longer carry regularly in stock or which have to be closed out to make room for new stock specially equipped to take Dadant's Wired Foundation. If interested, write for list; we can save you money.
Dadant & Sons, Hamilton, Ill.

HAVE YOU any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so send us a list.
American Bee Journal, Hamilton, Ill.

CONNECTICUT and Rhode Island headquarters for Root's Beekeepers' supplies.
A. W. Yates, 3 Chapman St., Hartford, Conn.

ATTRACTIVE LOW PRICES—Write us for list of odds and ends, shipping cases, hives, etc., first grade, priced to save you money.
Dadant & Sons, Hamilton, Ill.

WESTERN BEEKEEPERS—We can demonstrate that you can save money on buying bee supplies of best quality. Write for our latest price list.
The Colorado Honey Producers' Association, Denver, Colo.

FOR SALE—Get our special prices on tin, glass and paper honey packages. Shipments from Detroit, Chicago or Grand Rapids.

A. G. Woodman Co., Grand Rapids, Mich.

SUPPLIES—F. A. Martiny, New Orleans, La., distributor Root's quality bee supplies, Airco foundation, glass and tin honey containers.

FOR SALE

SEE our display advertisement on page 569.
Loveitt Honey Co.

FOR SALE—Good second-hand 60-lb cans, 2 cans to a case, boxed, at 60c per case, f. o. b. Cincinnati. Terms cash.
C. H. W. Weber & Co., 2163 Central Ave., Cincinnati, Ohio.

FOR SALE—Our own crop white clover and amber fall honey in barrels and cans; also white alfalfa in cans. State quantity wanted and we will quote prices. Samples on request.
Dadant & Sons, Hamilton, Ill.

BEE FARM LAND in Western Washington. Three 80-acre tracts in fire weed belt. Grass grows ten months a year, and sweet clover blooms till middle of October. One of the best bee locations in the U. S. Owner has asthma and must change climate. Price \$6.00 an acre, with warranty deed and abstract. Better investigate this.

G. E. Kephart, Puyallup, Washington.

FOR SALE—About 85 swarms with extractor, extra hive bodies, comb and extracting supers. In a favored section, with a big future on hand. Best markets 15 miles; roadside comb 35¢ to 50¢. Minimum wintering troubles. A giveaway at \$1,200. Just found rich copper vein.

F. H. Hagemann, Vienna, Va.

FOR SALE—Apiary of 55 colonies, supplies and equipment. New Italian queens, young bees, plenty honey, healthy. Never in better condition. Fine orange honey location in Riverside.

James McKee, Riverside, Calif.

FOR SALE—Greatest bargain ever offered on new 10-frame supers, reversible bottoms and covers nailed and painted; also loose hanging frames. Write for prices. Henry Eggers, Birchwood, Wis.

FOR SALE—16 colonies choice Italians; no disease; 5 in Modified Dadant hives; supers for all; winter stores. A bargain.

C. H. Best, Manson, Iowa.

FOR SALE—15 stands, requeened last year, with modern hives.

W. T. Hall, Dothan, Ala.

FOR SALE—In lots amounting to \$10 or more, 100 reversible bottom-boards, 50¢; 100 metal covers with inners, 80¢; 180 full depth brood chambers of wired drawn comb, \$2.00; 30 zinc excluders, 20¢; 40 colonies of bees, two-story, metal covers, wired combs, requeened in August, \$10. All the above is 10-frame standard goods, well painted, nearly new, and disease free. Am selling on account of having no time to look after bees. All prices f. o. b. Newport, Ky., except bees.

Dr. Roy Beckett,

50 Forest, Ft. Thomas, Ky.

FOR SALE—Bargain. Well established queen and package business, and 100 to 500 two-story colonies, 8 and 10 frame hives, abundant stores. Fine mailing list, satisfied customers. A good local honey trade. This is something with a future to it. Other disposition will be made of bees not desired by party taking over our interests. Price right for cash. Reason for selling: other interests and an affliction of the nose which will not permit my constant attention and use of smoker. If desired, 56 acres land for home, partly improved, one mile from good town with graded high school. On Government Aid Rock highway. Healthy climate; good water. Terms.

N. C. Jensen, Prop., Crawford, Miss.

FOR SALE—100 colonies Italian bees in first-class condition; priced reasonable. For further particulars write.

Fay Ward, Marathon, Texas.

NEW 4-frame reversible extractor, 9% baskets. Lorenzo Clarke, Winona, Minn.

FOR SALE—88 colonies, 10-frame hives, metal covers, wire type queen excluder, 1 super per hive shallow extracting combs, all wired; choice Italian bees of select breeding; plenty of winter stores. A very high class outfit. Stand closest inspection. No disease whatever. For quick sale \$900, F. O. B. Fred H. Drury, Unionville, Mo.

MISCELLANEOUS

NEW HONEY IN November—Atwater.

THE BEE WORLD—The leading bee journal in Britain, and the only international bee review in existence. It is read, re-read and treasured. Will it not appeal to you? Specimen copy free from the publishers. The Apis Club, Benson, Oxon, England. Send us a postcard today. It is well worth your little trouble.

PLANS FOR POULTRY HOUSES—All styles; 150 illustrations; secret of getting winter eggs and copy of "The Full Egg Basket." Send 25 cents.

Inland Poultry Journal, Dept. 56, Indianapolis, Ind.

HON-E-NUT CANDIES, the original honey and nut candies. Reg. trade-mark since 1917. \$1.00 per pound, postpaid. Chocolate beehives full of honey and nuts, 2 for 25¢ or \$1.10 per dozen, postpaid.

Fairmount Apiaries, Schuylkill Haven, Pa.

SEND TODAY for samples of latest Honey Labels. Liberty Publishing Company, Station D, Box 4005, Cleveland, Ohio.

THE "Archiv fur Bienenkunde" is a valuable scientific publication. "It merits the appreciation of all beekeepers acquainted with the German language," says the Bee World (January, 1923). "The Archiv fur Bienenkunde, now in its fifth volume, is of as high grade as any bee journal which comes from abroad, dealing especially with the scientific aspects of beekeeping," says Gleanings in Bee Culture (February, 1923). Annual subscription, \$1. Specimen copy free. Publisher, Theodor Fisher, Freiburg im Breisgau, Kirchstrasse 31, Germany.

WANTED

NEW HONEY IN November—Atwater.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5¢ a pound for wax rendering. Fred W. Muth Co., 204 Walnut St., Cincinnati, Ohio.

HONEY WANTED—Comb and extracted, in large or small quantities. State source and how put up. Give lowest price in first letter.

E. P. Fosse, Marion, Ill.

BEESWAX WANTED—We need large quantities of beeswax and are paying good prices now. Ship to us at Hamilton, Ill., or Keokuk, Iowa, or drop us a card and we will quote f. o. b. here or your own station, as you may desire.

Dadant & Sons Hamilton, Ill.

WANTED—Man for extracted honey. State age, experience and wages wanted.

B. F. Smith, Jr., Fromberg, Mont.

WANTED—Back numbers of the Journal: Complete years preferred.

George Sumner, South Woodbury, Vt.

WANTED—Comb honey.

Jamison, 690 Adams, Memphis, Tenn.

WANTED—Comb-honey man wants job; salary and share. Make offer.

J. A. Tracy, Ft. Morgan, Colo.

WANTED—To correspond with a young woman between 20 and 30. I am a widower with a boy 8 years old, love music, have a good tenor voice and am a Protestant church member.

Joe's Apiary, Sedgwick, Kans.

WANTED—To buy about 150 colonies with winter cases and complete equipment for extracted honey production. Must be free from foulbrood and reasonable in price. Will move the outfit to our own location in northwestern Illinois.

Hawthorne Farm Co., Barrington, Ill.

A News Story About Bees

The Quincy, Illinois, Herald of October 1, has an entertaining story about bees and about a beekeeper, our friend E. A. Welch, of that city. While the reporter who wrote the story got things slightly mixed when telling about the various items of bee life, on the whole it was a good story and one which will arouse some interest on the part of the readers of that paper. Mr. Welch is a postman who keeps bees, or perhaps it should be said that he is a beekeeper who carries Uncle Sam's mail. He is well known to Quincy people as a beekeeper, and his honey sales certainly should not suffer from this half page story about bees and their keeper.

Statement of the Ownership, Management, Circulation, Etc., required by the Act of Congress of August 24, 1912, of American Bee Journal, published monthly at Hamilton, Illinois, for September, 1923:

STATE OF ILLINOIS, ss.

County of Hancock.

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared M. G. Dadant, who having been duly sworn according to law, deposes and says that he is the Business Manager of the American Bee Journal, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, rendered by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

Publisher, American Bee Journal, Hamilton, Ill.

Editor, C. P. Dadant, Hamilton, Ill.

Managing Editor, Frank C. Pellett, Hamilton, Ill.

Business Manager, M. G. Dadant, Hamilton, Ill.

2. That the owners are:

C. P. Dadant, Hamilton, Ill.

H. C. Dadant, Hamilton, Ill.

V. M. Dadant, Hamilton, Ill.

C. S. Dadant, Hamilton, Ill.

L. C. Dadant, Hamilton, Ill.

M. G. Dadant, Hamilton, Ill.

Leon Saugier, Hamilton, Ill.

Jos. Saugier, Hamilton, Ill.

That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of the total amount of bonds, mortgages or other securities, are: None.

(Signed) M. G. DADANT. Sworn to and subscribed before me this 25th day of September, 1923.

MARY EARLS (formerly Mary McCoy), Notary Public. My commission expires January 17, 1924.

Honey Conditions in Cape Haitien District

The extraction and exportation of honey has been a minor industry in Haiti for a number of years. Practically all of the product goes to France, where it has, like Haitien coffee, a recognized demand. A year ago Havre quotations for Haitien honey had dropped to 155 francs per hundred kilos, but a gradual recovery took place during the past season and a recent quotation of 320 francs has, despite the depreciation in the franc, given a marked stimulus to the honey trade in this territory. About 1,500 barrels of 32 gallons each, will represent the season's shipments from Cape Haitien. A leading shipper states that the total for the other ports of Haiti will not exceed 1,000 barrels.—Consul Damon C. Wood, Cape Haitien, Haiti. (From Honey Market News Letter.—U. S. D. A.)

Bees in Cellar

In placing bees in cellar, I place every row of hives with entrance facing from the door. If placed along the side of the cellar the open door lets the light into the entrances and the bees get uneasy because of the light. With entrances faced away from the light the bees remain quiet even in spring while taking them out. In the past 15 years I have not lost a colony in my cellar except those which were queenless in the fall.

N. E. France, Wisconsin.

HONEY SELLING HINTS

By Robert S. Merrill.

An exhibit of honey in the window of the bank with which the bee-keeper does business would be of interest. In many communities it is the custom of the banks to devote a week to each of the concerns which patronize them, showing their products and using placards to explain the merits of their merchandise.

Banks like to do this, because it conveys to the public the impression that the leading business concerns of the community do business with them and that those who ally themselves with a bank prosper in their business affairs.

The writer has seen a great many such exhibits—from preserved fruits to models of furniture—but never honey. But why not?

Alfalfa clover honey is being marketed by organized farmers of Idaho through labor union meetings to organized workers in Chicago. Cards offering five-pound pails for \$1.00 are distributed at the meetings and notices are carried in the labor papers. The sales have been extensive, as there is a warehouse in Chicago and cases of 12 pails for \$12.00 will be delivered any place in the city.

Plans for selling honey for the holidays should be under consideration early. The writer surveyed a great many newspapers from all parts of the country last Christmas season and saw remarkably little honey advertising, although almost every other sort of food product was featured as suitable for gifts. There are so many other things bidding for the attention of the pocketbook at

this time that some sort of reminder is advisable.

In featuring honey for the holidays it is not necessary to use large newspaper space, as is shown by the advertisement of the Sweet Apriaries, which was run in Nevada newspapers to help out the dealers who

**HOLIDAY
SPECIAL**
 Send Them a
CHRISTMAS BOX
 Of Delicious
**NEVADA COMB
HONEY**
**FROM THE
SWEET APIARIES**
 ——————
On Sale At
FARMERS' MERCANTILE CO.
 Minden
ARENDE JENSEN CO.
HOWARD BROS.
 Gardnerville

handled their product and to suggest honey in Christmas boxes. This advertisement was only five inches deep by a single column, but by having the little Christmas bells at the top and bottom made a seasonal appearance.

Beekeepers might take a tip from some of the California fruit growers—not the large associations, but enterprising individuals—who use small advertisements to remind readers that "Only three more days to send a box so it will reach Chicago

(or New York) by Christmas." The point is that such announcements are not only of interest to those having friends and relatives in Chicago or New York, but they make other people think—the human trait of becoming interested in other people's affairs.

Every year the Florida Development Board sends out state-wide suggestions that marmalades, citrus fruits and nuts be used for Christmas gifts, in an effort to introduce and popularize these products, and honey is just as welcome as these.

A friend of mine who is connected with the advertising department of a nationally known electrical appliance manufacturing company dropped a chance remark that he had an uncle who ate sugar on everything, including his honey. This led to a discussion of honey on this and honey on that. He spoke of the increasing use of the electric waffle iron and of waffles and honey. Also he wondered if it would pay a honey man to work with the local electrical dealer when the latter was having a demonstration of waffle irons, and supply the honey. Almost any dealer, this advertising man said, would be glad to allow the beekeeper to take orders, to distribute advertising matter and to have space in the window for a display. More than that, he pointed out, a live electrical dealer ought to pay for newspaper advertising that featured both the honey and the waffle iron.

It was his opinion that this would be an excellent combination if it were not too costly for the honey seller to use this form of distributing samples. He felt sure the electrical dealer would welcome it, because the mere suggestion of "honey and waf-

HONEY WANTED

BY THE RECOGNIZED HONEY HOUSE OF CHICAGO

"Wanted up to ten cars of honey (mostly comb.) Will handle for your account or buy outright. We are the RECOGNIZED HONEY HOUSE OF CHICAGO. Let us hear from you at once what you have to offer or ship."

LET'S GET STARTED

COYNE BROTHERS, 119 W. SOUTH WATER STREET CHICAGO, ILL.

BEES FOR 1924

Our bees are not pedigreed, and each queen is not named, and I do not promise a tongue long enough to get to the bottom of a well, or an extra pound of bees.

But if you will buy 10 3-frame nuclei from me I will refund the price if they do not make as much honey as any 3-frame shipped at the same date and given the same hive combs and treatment in the same yard. Shipment from April 15 to June 1. Write for prices.

J. G. PUETT & SON, MOULTRIE, GA.
 Reference: First National Bank, Moultrie, Ga.

fies" is alluring. Another thing, he thought, was that by advertising the name of the beekeeper the women would gain an impression of cleanliness and purity about the demonstration and not assume that it was any old honey or imitation.

The suggestion is passed along for consideration.

When you want to get publicity about honey into a morning newspaper, remember that Monday morning is the dullest day, as a rule, and copy is more welcome then than at other times. You see all the courts, offices, public buildings and so on are closed and do not yield their usual grist. It is recorded of Theodore Roosevelt, by those who knew him well, that he was aware of the dearth of news on Sunday and timed many of his news releases so they would be released to the public on Monday morning.

Perhaps you keep the local newspaper supplied with any news you may have about bees and honey. But how about the correspondents who send news to out-of-town papers? The stuff they send out generally goes to papers in the larger cities and is often copied, and thus good news about beekeeping broadcast to an entire state. A carload of honey, valued at \$6,000, was shipped by the Honey Producers' Association at Wheatland, Wyo., and the item seemed interesting to a great many

news editors. Find out who represents the papers from the near-by large cities and get acquainted with them. They may find there are things worth printing about you that seem very ordinary to you.

Items about honey in Canada are printed frequently by the Daily Journal of Commerce and La Salle Street Journal of Chicago, a paper for business men. Presumably there are no sources from which it is furnished material about the product in the United States.

The manner in which increased consumption of other foods is secured often suggests plans that are adaptable to selling more honey. A Texas newspaper offered prizes to the women who sent in the best tested recipes for using oranges. Two boxes of oranges was the first prize, and so on. Every contestant was sent a booklet of orange recipes; the plan got an excellent mailing list of orange users. The oranges were supplied by the growers, of course. Why couldn't a beekeeper get his local newspaper to put on a honey-recipe contest and give a quantity of honey for the first three prizes? He would find out who was interested in honey. Newspapers are always eager to interest their women readers, because they realize the women are purchasing agents for the home and that the success of their advertising columns depends upon

getting the women to watch the papers carefully.

Illinois.

Have These Been Tried?

Letting bees carry honey into the super through a small opening protected against letting a strong draft come up through the hive.

Having bees penned in wire screen cage fixed to hive during blossom spraying season, etc.

Watering bee pasture during dry spells of weather.

If a single cell or so of foulbrood is found on a comb, is there a way to treat it without taking the comb away from hive and immersing it for hours in some solution for disinfecting?

A. E. Good,
Lancaster, Pa.

Acarine Disease

We are indebted to A. H. E. Wood, of Scotland, for a copy of Memoir No. 6 of the North of Scotland College of Agriculture dealing with disease investigations. It is a pamphlet of 50 pages, by Doctor Rennie, outlining in detail his studies of the acarine disease. Now that the disease is known to be caused by the presence of a mite in the breathing tubes of the bee, much attention is given to the search for remedies for the trouble.

MONEY SAVED

TIME SAVED

BEE SUPPLIES

Roots goods at factory prices with WEBER'S Service

Send us a list of your wants and we will quote prices that will save
you money

C. H. W. WEBER & CO., 2163-65-67 Central Ave., Cincinnati, O.

GLASS AND TIN HONEY CONTAINERS

2 1/2-lb. can, in crates of 100	\$4.00 a crate
5-lb. pails, in crates of 100	7.00 a crate
10-lb. pails, in crates of 50	\$5.25 a crate
60-lb. tins, used, good condition, 2 tins per case	25c a case
60-lb. tins, new, 2 tins per case	\$1.00 a case

Glass jars with gold lacquered, wax-lined screw caps—

8-oz honey capacity, 3 doz. per carton	\$1.50 per carton
16-oz. honey capacity, 2 doz. per carton	\$1.30 per carton
3-lb. or quart capacity, 1 doz. per carton	\$1.00 per carton

HOFFMAN & HAUCK, Inc., Woodhaven, N. Y.

ALOIS ALFONSUS

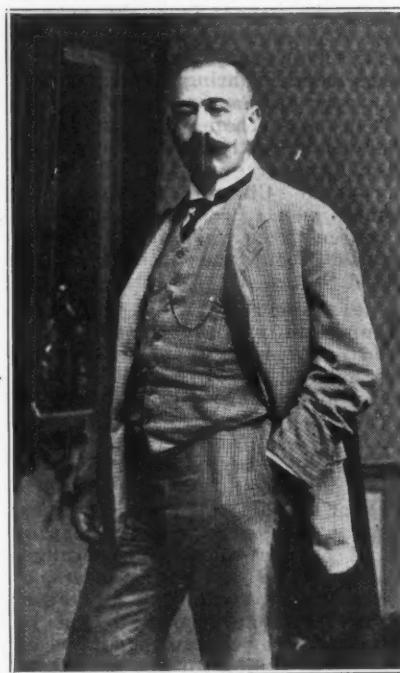
By Sepp Schmid

There are certainly few men in the world more indefatigably active in furthering apiculture than Alois Alfonsus, of Vienna, the editor of the Austrian "Bienenvater," and State Apiarist of Austria. The history of his life is remarkable.

Alfonsus was born in 1871 in Vienna. Even as a scholar in the primary school, he showed a great interest in bees. Muck, the former President of the "Reichsverein fur Bienen zucht" was his teacher and introduced him to the mysteries of the bee world. His parents encouraged him in every respect, helped him build a house apiary for 20 colonies, bought him an extractor and allowed him his pleasure so that the boy verily grew up among his bees. "The aparian wonder-child" was his nickname, given by the great beemaster Vogel.

In 1888, when he was 17 years old, he attended the Wanderversammlung, the Middle European Congress of Apiculture, and he has been a regular attendant at its meetings during the last 34 years, whether the Congress was held in a town on the shores of the North Sea, or in the farthest Southeast Hungary.

At the Congress in Lubeck, in 1891, Alfonsus was elected juror when he was just 20 years old. At the next meeting this young man



Alois Alfonsus.

gave a most sensational report before an assembly of several hundred older and more experienced beekeepers. He was again honored by again being elected for juror because of his intense activity as a reporter. He was

a hearty friend of men of the old guard like Dzierzon, Vogel, Mrs. Berlepsch, Lehzen, R. Dathe, Ludwig, Huber and others.

When he was 19 he received first prize among many competitors for managing an apiary of 35 colonies. When 23, he passed first in the expert examination, and from that moment he began an activity which has extended into many lands.

Alfonsus has contributed much to international understanding, and it must be noted especially that this year, at the Congress at Madgeburg, an International Congress, he spoke of the wide spirit in beekeeping and made a plea for international friendship between beekeepers.

Alfonsus has founded more than 120 beekeepers' associations in old Austria and has created several large provincial organizations. For several semesters he was lecturer at the Agricultural College of Vienna, and hundreds of the younger experts are indebted to him. He was one of the founders and promoter of the Viennese School of Apiculture where, for 30 years he was teacher. This is an excellent institute which has been visited by prominent American beekeepers such as Pratt and Frank Benton.

His many discourses and reports, given in the assemblies of associations, unites him to all circles of the Austrian beekeeping world.

Since his 23rd year Alfonsus has

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been the managing editor of "Bienen-vater," which, with an edition of 24,900 copies, ranks among the best bee journals in Europe. He also contributes to many bee journals at home and abroad and is a member of honor of several unions and associations of apiculture and Vice President of the Apis Club of England.

He published his first book about apiculture when quite young and 3 years after edited "Das Neue Bienen buch," which has reached an edition of 60,000 copies. In the year 1905 appeared his great work, "Allgemeines Lehrbuch der "Bienenzucht" (General Text Book of Beekeeping), which contains 670 pages and has just been issued in a new edition. He has published a great number of booklets, such as migratory beekeeping, skep beekeeping, beekeeping for railroad men, the Carniolan bee, etc.

Alfonso is also Government Adviser in dairying and in this line he has also rendered great service to his country and has been honored several times by his Government.

It is well to mention that Alfonso, during all his life has been an adherent of the American hive pattern and has done much for the distribution of them in Austria and neighboring countries.

Vienna.

Honey Day at New York Exposition

Thursday, November 8, will be Honey Day at the Eastern Apple Exposition and Fruit Show at the Grand Central Palace, New York City. The program will open at 2 p. m. with an address by Dr. E. F. Phillips on "The Honies of America." In connection with this address Dr. Phillips will exhibit his wonderful collection of some two hundred and fifty samples of American honeys. Mr. E. R. Root has been invited to talk on "Facts About Honey." Prof. H. F. Willson, of the University of Wisconsin, has been invited to talk on "The Place of the Honeybee in American Agriculture," and Mr. John M. Kelley has been invited to talk on "American Advertising and its Application to the Marketing of Honey."

A number of large honey exhibits will be on display at this show. New York will have a large educational honey exhibit as well as a sales exhibit. Everyone who goes by these exhibits will be invited to taste "Blossom-Sweet Honey," the trade name of the honey that is being put up and sold by the Empire State Honey Marketing Co-operative Association, Inc.

Beekeepers in the East are urged to attend this meeting. After

the speaking program is over, the meeting will be thrown open to general discussion. Reduced railroad fares to New York City will be available during the Exposition, which opens November 3 and continues through November 10, and hotels are offering special rates to Exposition visitors. For details write to Mr. A. R. Rogers, Room 1102, Grand Central Palace, New York City.

Death of Robert Cissna

Robert Cissna, a well-known bee-keeper of Yakima, Wash., died of cancer on September 24, at the age of 72 years. Mr. Cissna formerly lived at Porter, Ind., but has made his home in Washington for many years. He was well known as an exhibitor at the fair for nearly twenty years. Mrs. Cissna died in December, 1922.

The Arizona State Fair at Phoenix offers a total in prizes on bees and honey of \$246. A large amount, considering that the beekeeping industry is restricted to a few irrigated districts.

P. H. Benson is superintendent of the exhibit and Dr. Charles T. Vorhies judge.

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BURR COMBS

Hot Shots from a Fall Fever

By G. H. Cale.

That is just the way I feel about it. Before a fellow realizes that summer is bowing her polite goodbye and giving way to frosty autumn, he gets it in the neck. I have been going around snuffing and sneezing for so long that probably splendid isolation would be good both for me and those who have to associate with me.

It is one of the joys of beekeeping in the fall. I wouldn't mind so much if I had anything to crow about as a result of the year's work. There will be scarcely a 15-pound average per colony to help us pay our expenses. You will remember, in my last Burr Combs page, I was full of enthusiasm over the prospects for the present season; indeed I went right down to facts and figures on it, but this enthusiasm faded away and I am about as cheerful as a North Dakota wheat farmer. To add to the glow, Pellett had to come back from North Dakota and tell us poor fellows all about the short crop they were having up there. One beekeeper reported to him that they only had half a crop and would only have an average of about 175 to the colony. Great Jehoshaphat! I wish we had half of that kind of a half crop right down here.

There are many stories about this northern country and I believe some of them are off color. We have an apiary assistant who lived among the blizzards in North Dakota for quite awhile and he is constantly wondering what is done with the bees in winter in that country. Cellar wintering is probably the only feasible method. I wish some one would tell us about it.

Sweet Clover

For the present, at least, we have decided to bring North Dakota down here rather than go to North Dakota. In pursuance of this policy we sent George Watt up to Joliet to interview Winkler. If you wish to know anything about sweet clover, visit Ed. Winkler. He can tell you all about it. Watt came back full of enthusiasm. We have decided to invest a little money in furnishing sweet clover seed and advice in planting and soil treatment to any

of the farmers around our apiaries.

This year we had a small patch of a few acres of Hubam sweet clover near about 14 colonies of bees which had to be shaken for foulbrood. These bees built new combs quickly and filled up amazingly fast from this small amount of clover. Although we have considerable biennial sweet clover, it blooms at a time when the day and night temperatures are too much alike. Hubam clover, however, blooms later in the fall when there is a decided difference between the day and night temperatures and it seems to yield a much greater amount of nectar for this reason than the biennial variety. It is needless to say that we are favoring Hubam in our clover campaign. Winkler says he has increased his yield from about 50 pounds per colony to 100, and has several hundred acres of Hubam around his yards. We hope to accomplish the same results.

About Disease

Those of you who followed me in my last Burr Combs will remember that we were having a bad tussle with American foulbrood. I am glad to report that foulbrood has been reduced over 90 per cent. I believe we can make a similar reduction next year.

The more experience I have with disease the less I think I know about it. Until this year I thought I knew foulbrood on the spot. In one of our yards, however, we found 8 diseased colonies and moved them to the hospital yard. In 4 of them there were only one or two cells of disease and, following the usual foolish custom, we poked a match into these cells, stirring up the contents. The characteristic odor of American foulbrood was present and the ropiness was also distinctive, so that we felt sure of our diagnosis. When these colonies were placed in the hospital yard, however, the disease disappeared. We could not find the cells nor any more like them. These colonies were marked and isolated, went through a fine season, gave a crop of honey, and we have never been able to find the disease since. We begin to feel that we don't know

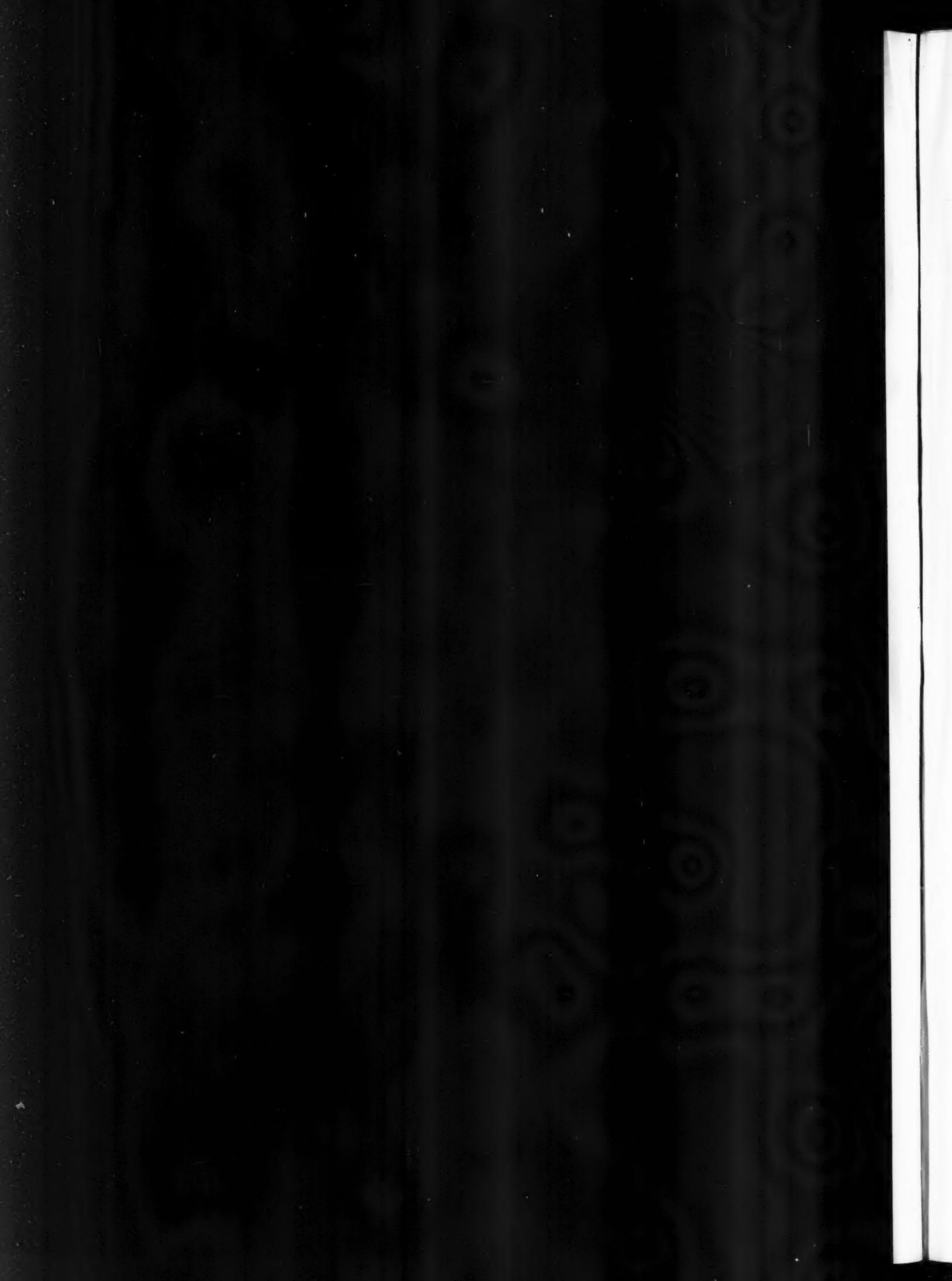
much about American foulbrood.

Later in the season, in another apiary, we found two cases of what we also felt sure to be American foulbrood, but examination of these samples showed no indication of disease. These colonies do not at present show any further evidence of foulbrood since taking the samples. They possibly will remain healthy.

I wonder how many times we have mistaken larvæ dead from other causes to be infected with American foulbrood and have shaken these colonies. Probably we have lost considerable money in this way, and yet how are we to be sure that disease is not present, and can we afford to wait for a report of a laboratory examination before we shake these colonies? Here is a new question which we have not solved yet. How much we know ain't so? If I had a chance to make a swap, sight unseen, I would trade all the things I know for all the things I don't know, and I bet I would be the wise man of my time.

The worst feature about this page is that it has a limit. It is only 3 columns long and comes at the end of the magazine; we can't go backward and we can't go forward. When a fellow gets down to the end of the last column he has to stop, just as he gets warmed up. It is a great place, however, to be turned loose in since one can say a great deal and not tell much and make each reader feel as though he were getting valuable information not generally given to the reading public.

It is also a pretty good page to get a shot in at the boss now and then. Let me tell you something: Louis had a lot to say about going fishing. He had worked hard all summer (I am ready to back this up, too), and he deserved a rest. He gave you an idea that he was going to take a nice long vacation and come back and work like everything. Don't you fool yourself! Ducks are beginning to fly around here now and Louis, Maurice, Henry and the rest of the boys won't know a blamed thing until next summer.



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